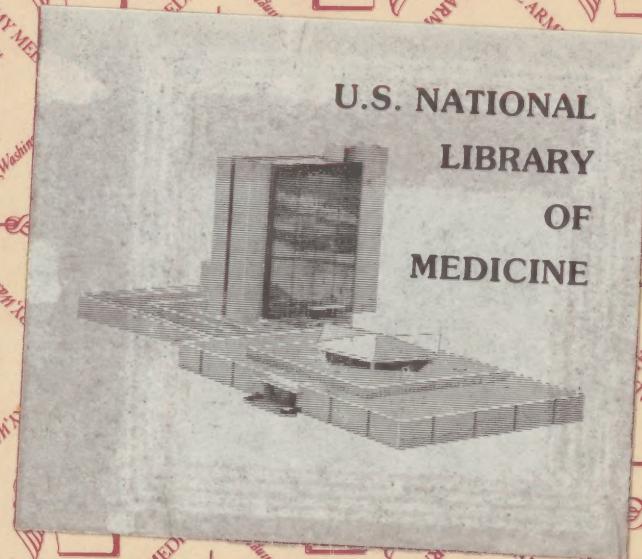


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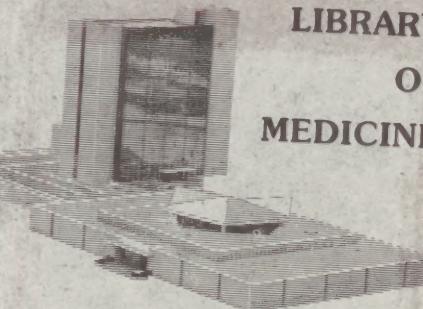


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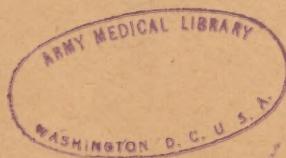
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MEDICAL DEPARTMENT ACTIVITIES IN THE
PHILIPPINES FROM 1941 to 6 MAY 1942,
AND INCLUDING MEDICAL ACTIVITIES IN
JAPANESE PRISONER OF WAR CAMPS.

By

Colonel Wibb E. Cooper, Medical Corps
(Formerly Surgeon, United States Forces in the Philippines)



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WIBB E. COOPER
Colonel, Medical Corps

1940-1941
1940-1941

1. INTRODUCTION

As the head of the U. S. Army Medical Department in the Philippines at the outbreak of the War with Japan, I feel it is my duty and responsibility to make a report to higher authority on the activities of the Medical Department during the period of my responsibility.

This is necessarily a narrative report, largely from memory, assisted by Medical officers who held key positions in the Medical organization during the brief initial campaign in the Philippines.

Several other officers who held important positions and who would have been selected to assist in this report died either during the War or during captivity and their records were captured or destroyed. Some records were recovered on the recapture of the Philippines and I feel confident that a prolonged study and evaluation of the data from these sources should and will eventually be made. I believe a record of achievement was made by our group to which we can all look back with pride and confidence that our contribution to the war effort under the most trying circumstances measured up to the best traditions of the Medical Department.

I wish to give a balanced credit of achievement to the entire Medical Department both during the Philippine Campaign and including the prisoner of war phase. The Japanese authorities selected certain medical personnel for medical work at the various camps arbitrarily at times. It was a matter taken entirely out of the hands of the senior Medical officers present and just as in other matters of camp administration, the senior line officers had no rank and found themselves doing farm work assigned to them by squad leaders, their juniors in rank, just so the senior Medical officers were given no prerogatives or authority in accordance with their rank.

I know of no group of Medical officers who ever lived through such a trying experience as that capable group of medical prisoners of war trying to practice medicine under the supervision of ignorant Japanese soldiers in most cases, with practically no medical supplies and equipment -- and they themselves often suffering from the same debilitating ailments they were attempting, often unsuccessfully, to treat in their fellow prisoners of war.

I feel confident that very soon there should be available for publication in our various medical journals articles by these Medical officers filled with firsthand knowledge obtained from the real "crucible of experience." These doctors practiced medicine under the most difficult circumstances possible and observations made, especially in the deficiency diseases, should be of permanent value. Malaria, the dysenteries, and deficiency diseases were our main problems, both during and following the siege of Bataan and Corregidor.

The following activities are covered in the report:

- (1) General Review of the Entire Period
- (2) The Medical Field Service, Philippine Campaign

- (3) The Regimental Medical Detachments, Luzon
- (4) Hospitalization
- (5) The Philippine Medical Depot
- (6) The Medical Service on Corregidor
- (7) The Medical Service, Mountain Province
- (8) The Medical Service, Visayas - Mindanao Force
- (9) The Activities of the Dental Corps
- (10) The Activities of the Veterinary Corps
- (11) The Activities of the Army Nurse Corps
- (12) Medical Activities, Japanese Prisoner of War Camps
- (13) Medical Activities with the Guerrillas
- (14) A Tribute to Medical Department Personnel

Three periods are covered in my personal report, giving a general review of the whole medical picture:

1. Pre-war period - to 8 December 1941.
2. War period - 8 December 1941 to 6 May, 1942.
3. Prisoner of War period.

Officers who held key positions during the War have given invaluable aid in preparing this report which, while far from complete, is as accurate as can be presented at this time.

Much of the work discussed was performed by individuals now dead or by those from whom no detailed report is as yet available. It is the sincere desire of each officer participating in the preparation of this report to give full credit to whomever due, and when it is possible to prepare a more complete report, it is hoped that more detailed recognition may be distributed to the lower levels of responsibility, so apt to be obscured in the preparation of official reports, and where so much credit is due.

The data now available are so incomplete that a detailed report involving statistics and other factual data would be not only dry but of little value or actually misleading. Therefore a short narrative report was decided upon as being the most appropriate at the present time.

2. GENERAL REVIEW

A. Pre-war Period. Prior to the appointment of General MacArthur as Commander of the U. S. Forces in the Far East, General Grunert, the Department Commander, had been vigorously revising the War Plan of the Philippine Department and insofar as the Medical Department was concerned, the plans carried over with the USAFFE were largely those of the Department modified to meet the War needs.

All War plans for years have envisioned the possibility that unless strong reinforcements were received, just what actually happened would occur, an invasion of the Philippines by a superior force, withdrawal of our forces, loss of Manila, and a final stand on Bataan and Corregidor.

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The induction of Philippine Army troops into the USAFFE, and the possibility of a prolonged period of resistance to invading forces made necessary a modification of War plans which resulted in the development of a large reserve of hospital beds in Manila. Of the four General Hospitals available, the plan was to place one at Limay in Bataan, one at the Medical Hospital Center, Manila, one at Cebu and to hold one in reserve in the Medical Supply Depot in Manila.

Actually one General Hospital was issued to the Manila Hospital Center, a part of one was stored and used at Limay on Bataan, the other two remained in Manila Depot and as much as possible of selected materials moved to Bataan upon evacuation of Manila.

The Medical Supply Depot did a magnificent job in the evacuation of these supplies by trucks and barges -- many barges were lost and the last truck train was cut off in Manila and lost. The personnel, however, managed to evade capture by the Japs and returned to Bataan, where a large Medical Supply Depot was set up in the vicinity of General Hospital #2 sufficient to supply essential needs of the troops on Bataan during the entire siege.

At the beginning of hostilities the blockade of the Philippines and the impossibility of obtaining any automatic replacement of medical supplies was expected. Instructions were given to the Medical Supply Officer to requisition all medical supplies and equipment in the Philippines beyond those actually needed for civilian needs. Considerable quinine, rubber goods and other critical items were obtained in Manila. A representative from the Medical Depot was sent to Cebu with instructions to do the same in the Visayan-Mindanao area and the Surgeon of that area was authorized to make such purchases as were necessary.

The USAFFE was organized in July 1941. No Surgeon for the USAFFE was ever appointed. Colonel A. E. Schlanser, Medical Corps, was the Department Surgeon responsible for the revision of the Medical Department War plans. I succeeded Colonel Schlanser as Department Surgeon in September 1941 and continued in that capacity as Surgeon, Philippine Department under General Grunert, General MacArthur and General Wainwright until the fall of Corregidor. After my appointment as Department Surgeon, I functioned in the dual capacity of Department Surgeon and USAFFE Surgeon (informally) until December 10, 1941, two days after the war began, when I was appointed Acting Surgeon, USAFFE. As Acting Surgeon, I performed the dual duties of Surgeon, Philippine Department, and Surgeon, USAFFE, until appointed Surgeon, U. S. Forces in the Philippines, by General Wainwright on March 21, 1942. After the fall of Bataan, I assumed the additional duty of Surgeon of Corregidor until the surrender on May 6, 1942.

In the Medical Department, the responsibility headed up in the Department Surgeon and by using a Liaison office for contact with the appropriate Staff Department at USAFFE Headquarters, the Medical Department plans developed in a surprisingly satisfactory manner.

With the organization of the USAAC and the induction of the Philippine Army with the USAAC, a Field Service School for medical officers and men was established at Fort McKinley and Fort Stotsenburg. A Philippine Army Medical School was opened at Camp Murphy in Manila and cadres of medical officers and enlisted men, Philippine Army, were in training for key positions in the hospitals of the Philippine Army. Officers and enlisted men, Philippine Army, were also being trained in a special school for medical supply officers at the Philippine Medical Supply Depot. The Medical Department of the Army had the most effective cooperation and assistance from the Medical Department of the Philippine Army in perfecting plans to meet the needs of the combined forces.

The training of tactical units of the Regular Army and Philippine Army centered around the 12th Medical Regiment (PS). With the doubling of the Philippine Scouts and a consequent doubling of the personnel of the 12th Medical Regiment, an intensive program of training was started. This training carried over with the training of the medical tactical units of the nine Divisions of the Philippine Army and had a far reaching effect on the medical aspect of the entire Philippine Campaign.

Medical Supplies and Equipment. Fortunately timely request made upon The Surgeon General for medical equipment for hospital and other medical equipment resulted in two General Hospitals arriving in the Philippines a few weeks before the War began along with five Station Hospitals of 250-bed capacity. Many regimental dispensaries were being prepared for shipment or already en route to the Philippines when War began.

Hospitalization. At the outbreak of the War plans for the employment of existing Regular Army Hospitals and the construction of Station Hospitals for the nine Philippine Army divisions were being completed. Approximately \$400,000 outlay had been approved by the USACM and was awaiting action of the War Department. A total of approximately 6,000 hospital beds was planned for the Philippines with approximately 3,000 beds in the Manila area.

Had the warfare become stabilized even for a short period this number of beds which was developed in the three weeks after the outbreak of the War would not have been excessive. As the situation developed, however, there was no period of stabilized warfare and only by tremendous effort on the part of all medical personnel concerned was sufficient equipment saved to sustain the requirements of the siege of that peninsula.

Fortunately, in the Department War Plans, provision had been made for the location of one General Hospital on Bataan. A Battalion Post had been constructed at Limay, Bataan, for the housing of troops to guard the supplies stored on Bataan. In the plans for the construction of this Post the Medical Department had made special

arrangements for utilities connections for an operating room, laboratory, storage and other needed services. Hospital beds had been supplied with other equipment and medical supplies, lending itself to a ready conversion into a General Hospital. This Post became available to the Medical Department at the outbreak of the War and was the initial location of General Hospital #1 when Manila was evacuated.

For administrative and training purposes the Philippine Army was divided into (1) North Luzon Force (2) South Luzon Force (3) Visayan-Mindanao Force. A medical officer was assigned to the headquarters of each force who subsequently became the Corps Surgeon of the included forces. As far as possible a Regular Army Medical officer was assigned as medical instructor at the headquarters of each Philippine Army Division.

Medical Supply. Medical supply plans called for enlargement of the Medical Supply Depot in Manila at a new location in the outskirts of the city, a point less vulnerable to air attacks, and also the construction of subdepots at Tarlac, Los Banos and Cobu. The subdepots had not progressed beyond the planning stage when War began.

B. War Period. At the outbreak of the War on December 8, 1941, the Medical Department personnel was as follows:

Medical Department Officers	247
Medical Department Enlisted Men	717
Medical Department Philippine Scouts	572
 TOTAL	1536

The following Medical Department facilities were functioning:

- (1) Department Surgeon's Office, Manila
- (2) Sternberg General Hospital, Manila
- (3) Station Hospital, Fort William McKinley
- (4) Station Hospital, Fort Stotsenburg
- (5) Station Hospital, Fort Mills, Corregidor
- (6) Station Hospital, Fort John Hay, Baguio
- (7) Station Hospital, Potit Barracks, Zamboanga

Fortunately for several months prior to the War, most of the Regular Army medical officers at Sternberg General Hospital and the Station Hospitals had been replaced by Reserve Officers and the Regular Officers made available for assignment to and training with Regular Army and Philippine Army tactical organizations and for use in connection with the training program in which the 12th Medical Battalion (PS) at Fort McKinley figured so prominently.

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The bombing of Clark Field on December 8th and the vulnerability of the hospital at Fort Stotsenburg located on the edge of the airfield made it untenable and plans were immediately made for the evacuation of patients and the majority of the Medical personnel to the Manila Hospital Center.

The bombing of Nichols Field and the strafing of the McKinley area made advisable the removal of personnel and patients from Fort McKinley Hospital to the Manila Area.

On December 23, 1941, at a Staff conference at the USAFFE Headquarters, warning orders were received for the probable evacuation of Manila the following day. The following morning orders were received and late on the afternoon of December 24th the moves to Bataan and Corregidor were begun.

General Hospital #1 was established December 23, 1941 at Limay, Bataan. The Philippine Medical Depot began immediately the removal of medical supplies and equipment. One section of Department Surgeon's Office was established at General Hospital #1 on Bataan and another section at USAFFE Headquarters on Corregidor. Later one section of the office was located at the Headquarters, Services of Supply, on Bataan with an assistant in charge and the major portion, including all records established in Malinta Tunnel at USAFFE Headquarters on Corregidor. Early in January 1942, a section of the office with an assistant was assigned with the advance echelon of USAFFE on Bataan. Fortunately I was able to keep intact up to that time most of the trained personnel of the Department Surgeon's Office, who did invaluable service when I was, for most of the War, the only Medical Officer available for duty in that office.

Upon the reorganization of the Luzon Force, the following offices were created: The Surgeon, Luzon Force, and Surgeon, Services of Supply.

With the short intensive training given to the Philippine Army medical troops, it was most gratifying to have developed Philippine Army medical officers with an astounding grasp of the details of medical military matters in such a short period of time.

The same remark applies to the enlisted personnel. The majority of them showed an intense concentrated interest in acquiring the detailed knowledge of jobs to which they were assigned.

The delaying action of our troops in the retreat down to Luzon and up from Legaspi and the hesitancy of the Japs in occupying Manila, even when open to them, gave us much needed time in evacuating medical installations and supplies from Manila to Bataan and I recall the almost superhuman activities of the personnel of the Manila Hospital Center and Philippine Medical Depot in accomplishing their task of evacuating personnel, patients and supplies from

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Manila to Bataan and Corregidor between December 24, 1941, and January 1, 1942; and in performing the enormous task ahead of them in literally hewing out in the jungle of Bataan a future home for the location and operating of General Hospital #1, General Hospital #2 and the Medical Supply Depot.

General Hospital #2 was established at a previously selected site at km. post 162.5 and the Medical Supply Depot was located a short distance from General Hospital #1 and #2 at km. post 163.

The 1st and 2nd Corps were pouring down into the peninsula, preceded by a vanguard of refugee civilians who added much to the problems of sanitation, evacuation and hospitalization.

The story of the development of General Hospital #2 to a total of 7,000 patients, entirely in the open with the exception of certain facilities, is covered in this report by the Commanding Officer of that hospital during the last months on Bataan.

General Hospital #1 originally located at Limay became untenable as a hospital as the Japs advanced down the peninsula, and that hospital was moved to Little Baguio on January 26, 1942.

About February 15th the pressure on the General Hospitals became so acute that plans were made for the establishment of a convalescent hospital in the Visayas and a tentative location was selected in the vicinity of Iloilo. A nucleus of personnel was selected and brought to Corregidor and prepared for shipment to Iloilo to establish this hospital. The plan of establishing this convalescent camp never was fully executed, however, as the Jap blockade became more acute. The ship which transported the first group of fifty convalescents to Iloilo was sunk by Jap submarines on its return trip from the southern Island. The situation was becoming more serious and no hope remained for relieving the congestion of patients accumulating on Bataan and Corregidor.

With the approaching end of the dry season it was necessary to plan for the removal of General Hospital #2 (about 3,000 beds at that time) out of the jungle to some higher point, also affording shelter of some kind.

This presented no little problem to the Army Engineers, who made a survey with the Commanding Officer of Hospital #2 of the various possible locations. The location selected by the former Chief Engineer, then in Australia, proved to be impossible to develop with the materials at hand and in the time available for construction. The site occupied by the empty Ordnance warehouses adjacent to General Hospital #1 at Little Baguio appeared to be the most practical location although obviously not entirely satisfactory, because of its former use for storage of Ordnance supplies. (For lack of a better alternative, it was finally selected as the best solution of the problem.)

The military situation on Bataan was rapidly becoming worse. The troops were cut to half rationing on January 5, 1942, and were cut to one-third ration in March 1942. Bread was no longer available.

Malnutrition and malaria and effect on combat efficiency.

At the time of the fall of Bataan there were approximately 24,000 patients in the hospitals and clearing stations on Bataan. The shortage of quinino had necessitated the limitation of its use for treatment purposes. Malaria, subclinical in most of the troops on Bataan, superimposed upon a general condition of malnutrition, reduced the combat efficiency to such a point that further resistance was becoming impossible.

Anticipating the fall of Bataan and the need for additional medical supplies on Corregidor, the Medical Supply Depot on Bataan was directed to ship to Corregidor certain critical items of supply to be stored partly in the Malinta Tunnel and partly in medical dumps scattered over Corregidor. A considerable quantity of medical supplies was still stored in the basement of the old Fort Mills Hospital, partially destroyed by shelling and bombing, and unused for hospitalization since the move to Malinta Tunnel after the first bombing of Corregidor on December 29th.

On April 8th, when the fall of Bataan appeared imminent, recommendation was made to the Commanding General, U. S. Army Forces in the Philippines, that all nurses and certain Medical personnel on Bataan be evacuated to Corregidor on the morning of April 9th. After several anxious hours they all arrived safely at Corregidor. Having watched the blowing up of the ammunition dump on Bataan located between General Hospital #2 and Mariveles, the point of departure for Corregidor, and the delay in the arrival of the nurses early in the morning, made all of us apprehensive for fear that the nurses had been caught in a traffic jam near the point where the ammunition dump was blown up. The arrival of the Bataan personnel, including many of the sick, increased our problem in the already overcrowded Malinta Tunnel.

The Hospital Section of Malinta Tunnel, incomplete at the beginning of the War, was soon made usable and while originally planned to accommodate about 300 patients, at one time was accommodating not only all the patients and medical personnel of Corregidor but furnished quarters and messing facilities to the High Commander and other officials of the Philippines.

Upon the fall of Bataan, as the Surgeon of Corregidor, I took over direct control of all medical activities on Corregidor, in addition to my other duties.

The problem of immediately increasing the bed capacity in the limited space available was difficult, but by double and triple-

decking bunks of patients and personnel in the Hospital Section, and by extending the hospital area into the main tunnel and some of the main laterals of the main tunnel, we managed to increase the patient capacity to about 1,000 beds. At no time were we without available beds, but at the time of the surrender of Corregidor there were about twenty vacant beds in the hospital.

Cooking and messing facilities at the tunnel hospital provided for about 300 patients. With an increase to approximately 1,500 patients, personnel and attached individuals, it was necessary to provide additional cooking arrangements outside, near the tunnel entrance. With the increasing intensity of the bombing and shelling during the final days before the surrender, the preparation of this additional food was not only uncertain but a hazardous undertaking on the part of the kitchen force. The Japanese had very accurate range on tunnel entrances.

Laundry. With the destruction of the Quartermaster Laundry, the hospital was dependent entirely upon its own resources for laundry. A number of washing machines had been purchased in Manila for the Manila Hospital Center, and several were shipped to Corregidor upon the evacuation of Manila. Unfortunately, all but two were destroyed by bombing before they reached the tunnel hospital. The constant shelling and bombing in the drying area outside the tunnel made successful laundering practically impossible.

Water Supply. Fortunately, an artesian well near the entrance to the tunnel was never bombed and the hospital was never without a water supply. Often the supply was scant and strict economy in the use of water was necessary at all times.

Sewage Disposal. Frequent damage to sewage disposal lines by bombing or shelling occurred but in very short time repairs would be effected and there was never any long or serious interruption.

Electric Lighting. With the installation of an auxiliary lighting plant for the hospital area we were never without light except for brief periods.

It was remarkable that in spite of the bombing and shelling over and around the island the responsible authorities could always manage to effect some kind of temporary repairs to keep the public utilities in operation.

Evacuation of casualties from the aid stations throughout the Island of Corregidor was effected under most difficult circumstances due to destruction of roads and frequent shell fire. There were only two ambulances on Corregidor. One was knocked out early in the War but in some mysterious way the other ambulance and driver survived the entire War until the last day of fighting when the ambulance became a casualty. The driver has been decorated with a Distinguished Service Cross for his heroic action and absolute indifference to the hazards of his calls for trips to the various aid stations.

Every form of transportation was pressed into service and somehow all casualties would receive transportation of some kind to the tunnel hospital.

There were surprisingly few casualties from air bombing except when a direct hit was made on air shelters.

During the first artillery bombardment more casualties occurred but the troops soon learned to protect themselves. In the end, however, in my opinion, it was the artillery bombardment that softened Corregidor for the final assault and capture.

The fate of the 1,000 patients, in the event that the fighting continued within the tunnel, was a matter of anxiety to all of us and I shudder to think of the orgy that would have ensued had that fanatical horde actually reached the mouth of the tunnel with flame throwers and machine guns during the final period. After the surrender the Japs demanded the evacuation of the tunnel in ten minutes but were dissuaded from carrying out their demand. Fortunately the surrender was effected without any casualties within the tunnel.

No statistics were ever available as to the exact number of the killed and wounded during the final assault and capture of Corregidor. Roughly I should say that the Japanese casualties in proportion were about ten to one of our casualties. I hope that recovered documents will give a reasonably accurate figure on this matter.

C. Prison Period. For two or three days after the surrender, the captured duty personnel was being moved to the 92nd garage area. Members of the various staffs were being segregated and moved to various places.

The hospital personnel and patients were undisturbed. We were not allowed to leave the tunnel and all communication from the outside was cut off.

Finally permission was granted to me to go to the Headquarters of the Jap Forces and arrange for disposition of the dead in the tunnel and shortly afterwards liaison was established with the Surgeon of the Japanese forces. With this officer the general situation was discussed--the matters of sanitation, the generally unsatisfactory conditions and the potential danger of an epidemic of dysentery among the troops crowded in the 92nd garage area.

I requested to use other camp sites on the Island to relieve overcrowding. He appeared to be anxious to do what he could but was simply overwhelmed and unable to do anything definite about it. Finally he became exasperated and made a remark that has remained with me as a clue to the Japanese treatment of all prisoners of war:

"I realize" he said "that these conditions don't suit you and your people, but you must remember this--you have been captured by a nation whose standards in such matters are lower than yours." Definitely lower as we found during our subsequent experience. So low, in fact, that the matter of elemental sanitary arrangements and basic human needs in our various camps were matters of utter indifference to most of the responsible Japanese medical authorities.

After the initial period of confusion on Corregidor, relatively satisfactory relations were established with the Japanese authorities. The hospital routine was allowed to continue. There was a lot of coming and going and curious prowling around the hospital by Japanese officers and enlisted men. The Japanese doctor in charge proved to be a courteous, considerate individual and cooperated with me as he said "50-50." A couple of Jap soldiers were brought into the tunnel hospital and operated upon by him with the assistance of our operating surgeon. He gave me a pass to go unmolested throughout the Island. The Jap Commander at Corregidor visited the hospital, expressed great concern over continuing to keep all the patients in that "hole in the ground." He cooperated with me fully in making arrangements to get patients and personnel out into the sunshine that some had not seen for months. He expressed the greatest solicitude over caring for the nurses and women in the tunnel. He authorized and urged the speedy repair of the old Fort Mills Hospital near Topside for use again.

In an inspection of the old hospital by an American officer, Corps of Engineers, he expressed his opinion that repair and use of the old building was not only possible but that it could be made usable in a comparatively short period.

A large part of the roof of the hospital had been destroyed. Some parts of the roof were reparable, and the second floor (concrete) was fairly intact and could be used as a roof for the first floor. The kitchen and basement store room were in fair shape.

By July 25th, 1,000 patients in the tunnel had been reduced to about 400. The overhead personnel of the hospital had been reduced proportionately. The Japanese supply officers issued to the hospital at one time shortly after the surrender, rations for one month's supply. This ration according to our analysis had a caloric content of about 2,000 calories per man per day.

The Japanese doctor requested that he be furnished an analysis of food requirements for patients and other suggestions for improvement.

During this period, among the other Japs to visit the hospital and consult with me about the food situation and ask for suggestions about improving our food supply, was General Homma. He was courteous and apparently interested. This visit was made just after the

infamous Death March on Bataan ordered by General Homma and during the period that our fellow prisoners of war at O'Donnell and Cabanatuan were dying at an alarming rate from dysenteries, dietary deficiencies and general neglect of the elemental human needs.

'During the period between the fall of Corregidor and the move from the tunnel to the old hospital on June 25th and during the period when the mortality rate was highest among the prisoners of war at other camps in the Philippines as a result of neglect and apparent indifference on the part of the Japanese authorities and in spite of a threatened epidemic of dysentery arising in the 92nd garage area, the deaths among the prisoners of war on Corregidor were only twenty-six, and most of these were battle casualties.

Fortunately during the last few days before the surrender of a few essential medical supplies, including some sulfathiazole and carbarsone had been brought in by air through Mindanao.

There were medical supplies in the General Hospitals and Medical Supply Depot on Bataan and in the abandoned hospital and depot in Manila to meet all the requirements of our needs and more, but either through indifference or premeditated plan our prisoners of war at most other camps were almost totally lacking in the most necessary medical supplies.

At Corregidor I was allowed to retain control of all medical supplies. We had many more supplies than the Japanese themselves. The Japanese doctor would request certain items from my hospital (if I could spare them) and would meticulously sign a receipt for every item furnished.

Either I or some of my assistants would attend a conference in the office of the Japanese doctor daily, at which time he would request detailed reports concerning the patients and the hospital.

Various delegations visiting the hospital were continually curious about the number of our casualties and expressed surprise and incredulity at the relatively small number of our casualties as compared to their admitted losses. I could never make them believe that we were not, in some way, keeping back from them the true figures of our losses and finally they accused us of throwing our dead into the sea for disposition.

On June 25th, the movement out of the tunnel into the marvelous atmosphere of the renovated old hospital was completed. A holiday atmosphere prevailed all over the place. We all had an "it's good to be alive" air about us. We had obtained a piano from the Japanese from some source. We had secured a radio. We were sending out parties throughout the Island for green stuff to eat.

We had a visit from the Surgeon General, Japanese Army, and apparently as a result of his visit to the Philippines, it was decided to move us. On July 2nd at 9:00 AM, I was called to the office of the Japanese and told that he had just received orders for our removal to Manila and that all patients and personnel, except the nurses, would be loaded on a freighter in the harbor by 4:00 PM that day; that no hospital beds would be moved as plenty were available where we were going.

Accordingly between 9:00 AM and 4:00 PM we loaded all the patients, personnel and supplies that we possibly could handle. I was directed to remain in the hospital overnight and accompany the nurses to the ship the following morning.

The Japanese Commandant, during the short period in which we occupied the old hospital, had given positive instructions that no Japanese soldier or any visitors from off the Island would be allowed to enter my hospital without his personal permission. He visited the hospital the night before we left -- presented the staff with a large iced cake of which he was very proud, some small cakes and some beer.

During this period at Corregidor, while many things came up that were disagreeable and almost intolerable, yet in the main I got the impression that back of it all there was an intention and effort on the part of the Japanese to observe the decencies and general provisions of international law outlined in the Geneva Convention.

I arrived in Manila on the morning of July 3rd, expecting to reassemble patients, our personnel and equipment and supplies in some appointed place in Manila. Then much to my surprise and disappointment, upon arrival at Manila, the nurses were sent to Santa Tomas. I never saw or heard of them again until after I was released this year. I was sent to Bilibid prison with no further connection with the patients. The patients and equipment were admitted to the Hospital Section of Bilibid -- then being run by the Navy Medical Department.

After remaining at Bilibid Prison for a week, I was sent to Tarlac to join General Wainwright and other senior officers for transfer a month later to Formosa in accordance with what was apparently a studied policy of the Japanese to provide for a separation of the senior officers from the lower ranks. I never gave them credit for removing us from the Philippines as a result of any solicitation among the higher-ups concerning our health and the effect of long remaining in a tropical climate. Our later treatment at our destination in Karenko proved they had no special concern over our physical welfare. At Bilibid and later at Tarlac where I remained for one month, I learned for the first time of the horrible experiences of the Death March and prison camps O'Donnell and Cabanatuan. Many of the Tarlac group were survivors of those

horrible conditions and it was a feeling of guilt almost that my experiences up to that time had been so relatively humane.

Our trip to Formosa, while crowded in the double decker quarters in the hold of a troopship, was not unbearable. The food was better than it had been at Tarlac and our treatment en route to Manila, while in Manila and on board ship was not so bad.

We arrived in Takao Harbor on August 14th--transhipped to an inter-island boat and finally arrived at our destination at Karenko on the east coast of Formosa on August 17th, 1942.

We were exhibited to an enormous crowd of natives in our long hot march to our camp, subjected to a rigorous shakedown inspection on our arrival, but we at first considered our accommodations and general arrangement for our care, to be an improvement over our conditions in the camp that we had left in the Philippines. Karenko is just on the edge of the temperate zone and the climate in the main is delightful most of the year.

The story of Karenko is too well known to need repeating here but insofar as treatment is concerned it was the low point for our group.

We were not only told, but shown by our treatment, that we had no rank. We were worked on the farm--marched out and back by armed guards. We were subjected to every possible indignity. We were beaten and disciplined for the least infraction of petty regulations. We were starved by what would appear to have been a deliberate aim on the part of the Japanese authorities to keep our physical condition down below a certain physiological level.

We were fed propaganda papers freely during this period, filled with the wildest, unrestrained and imaginative reports of Jap victories and allied defeats. Our navy was being sunk regularly. Exact figures were given about once a month and written carefully on a blackboard for our perusal. A corresponding report showed relatively slight Jap losses.

Still with all this physical and mental punishment, the spirit of the group remained as a whole unbroken. The majority of the group lost from fifty to seventy-five pounds in weight. Some individuals halved their weight. Practically everyone had a nutritional disorder of some kind. Nutritional edema was the rule.

As a relief to this impossible situation and what appeared to be a deliberate starvation policy, some British Red Cross supplies in fairly liberal quantity arrived. As an additional tantalizing gesture the supplies were brought into the camp and stored for a long period before the details of method of issue could

be worked out by the Japanese authority. The final issuance of these supplies spread out over a period of several weeks actually saved the lives of many of our group and never afterwards were we so hopelessly underfed over any such extended a period. At subsequent periods we had occasional times when the "heat was turned on" with its accompanying starvation diet but not over such a long and seemingly never-ending period.

The feeding of prisoners of war was somehow involved in an overall directive from the highest Jap authorities concerning the production of food and its relation to work. At all camps there appeared the same farming idea, the raising of pigs, chickens, rabbits and even bee culture was considered. At one of our camps there seemed to be some kind of recognition on their part, that the laws of War forbade the working of certain ranks on projects requiring manual labor, etc. Still this other directive required everyone to work. With a typical oriental mentality, they attempted to evade meeting the issue squarely by using every artifice at their command to comply with both directives. They evolved the ingenious expedient of "enforced volunteering" for farm work of the majority of our group. This continued in the development of two farm projects, one at Karenko and the other at our second camp in Formosa, Shirakawa, from neither of which farms did we ever derive any substantial returns. We moved away from the first farm before any produce had matured. At the second place, Shirakawa, the working condition there apparently had percolated through to some higher responsible authorities. We had a visit from the Senior Camp Commandant of Formosa and an attempt on his part to have us sign an agreement that we had volunteered for the farm work we had already been required to do -- this the group almost unanimously refused to do with the result that the pressure was applied in real force. We were cut off from all farm produce, with a general reduction in our food; we were awokened several times nightly for roll call; amusements of all kinds were restricted to Saturday afternoons and Sundays. They allowed no naps in the afternoon; neither were we allowed to lie on our bunks or even sit on bunks or to take a nap in any position during the daytime.

Several officers were placed in the guardhouse on rice and water diet for four to ten days for petty infractions of regulations. We were in constant fear of "bopping" by several fanatical underlings who were apparently encouraged in their sadistic impulses by the camp authorities.

This condition of affairs continued over a long period, during which time the Japanese propaganda papers ceased to arrive and good rumors began to trickle into camp, when suddenly on October 1, 1944, all the general officers in camp received emergency orders to leave the camp by air for a colder climate. Shortly after their departure, we received underground rumors of our air attack on Manila. On October 9th, all of the colonels were hurriedly moved by train to northern Formosa to Keelung, the harbor of Taihoku, and

there loaded onto a large Japanese liner and packed like sardines in the hold of the ship and, just as we were about ready to sail two days later, we noticed a sudden unloading of all the other passengers on board including many Japanese wounded and civilian refugees. Soon afterward we had the mixed emotion of seeing and hearing our own aircraft in action for the first time in two and one-half years.

Luckily, our ship, the largest in the harbor, was not bombed but after a delay of two weeks we finally sailed and arrived safely in Japan five days later. I understand that this same ship was bombed on the next trip and sunk off Subic Bay with the loss of many prisoners of war aboard.

After two weeks at Beppu, a Japanese Hot Springs resort in Northern Kyushu, our party was moved across to Fusen, Korea, and on to Central Manchuria, about 150 miles north of Mukden and spent the winter of 1944-1945.

An attempt by the local Jap commandant at "enforced volunteering" for work failed completely. We were getting underground news in the form of a Japanese newspaper translated by a Japanese language officer. We knew the progress of events. This paper gave the full news to the local populace. The extent of the news would indicate that the news given to the people was defeatist propaganda building up the people towards a final surrender of Japan.

We were not surprised therefore when the end came. Actually some of our group (of which I was one) were more optimistic than those "in the know" on the outside had reason to be.

Addenda. In the Bataan and Corregidor siege, shell shock (battle fatigue) presented no serious problem. There was no possible retreat from reality. On the rock there was no room for such cases in the tunnel, so arrangements were made to send a few cases to Bataan.

Among the troops brought over to Corregidor at the fall of Bataan, a high incidence of malaria soon developed among those individuals who had previously kept their infections subclinical during the time that quinine was available for repressive use. After the discontinuance of quinine an alarming number of cases developed on Corregidor. This was quickly brought under control by treatment of infected cases and repressive doses of quinine to all the troops from Bataan. Undoubtedly the same thing happened to the Bataan troops forced to march out of Bataan and in the absence of sufficient quinine for treatment and repressive use, malaria superimposed upon the general malnutrition, must have accounted for a large percentage of deaths on and following the march from Bataan. There was considerable quinine available in our medical installations captured on Bataan which the Japanese would not make available. Every effort was made by our captive medical personnel to persuade the Japanese authority to obtain and use these supplies among our neglected dying comrades to no avail.

My medical supply officer was sent to Manila for the purpose of assisting the Japanese medical authorities in searching through and obtaining for them the necessary supplies from our captured depots. I was never able to see and discuss with him the success of his effort in getting these supplies out to our captured troops.

In the light of the subsequent treatment of all prisoners of war, including Medical Department personnel, Chaplains and Red Cross workers themselves, I recognize now as naive my unsuccessful attempt to obtain contact with the head of American Red Cross in Manila with the idea of obtaining through him some kind of credit for obtaining some relief supplies.

When my supply officer went to Manila to assist the Japanese in the distribution of medical supplies, I had hoped that he would be able to make contact with the Red Cross Representative.

While the overall characteristics of the Japanese may be outward politeness and inward cunning and deceit, still I gained the impression of sincerity in my dealing with the Japanese doctors on Corregidor. My disillusionment was complete, however, from the time I entered Bilibid Prison until my arrival at Mukden in the Spring of 1945.

3. THE MEDICAL FIELD SERVICE, PHILIPPINE CAMPAIGN.

World War II was a global war involving activities in almost every corner of the world under almost every conceivable condition of climate and terrain; a war characterized by the introduction of many new weapons and by tactical extremes varying from a bull-dog like hold onto a tiny bit of land to vast movements of almost unbelievable speed and extent. In a war of such protean character, the Medical Department of the U. S. Army was faced with many a situation for which no adequate precedent existed to serve as a guide in solving the medical problems which arose. Such solutions often involved marked modification of the accepted dogma of medical tactics. Such deviations from standard routine give added interest to the medical history of this War and it is because of this that the chronicle of the Philippine Campaign finds justification; that along with tragic fact that about 40% of the Medical Department personnel who participated in this opening phase of World War II did not survive to witness the final defeat of Japan.

The subject matter relating to the field medical service of the Philippine Campaign can very conveniently be divided into three phases: a pre-war period of preparation; the initial stages of the campaign, including the withdrawal of the American forces to Bataan; and the Bataan Campaign. This section of the general report will be confined to those military operations which took place on the Island of Luzon and will not touch upon the medical service of the harbor defenses of Manila Bay or the relatively minor events

which occurred in the Southern Islands. These will be covered in separate sections of the general report.

A. Pre-war Period of Preparation. Prior to 1941, the U.S. forces in the Philippines consisted of the Philippine Division, the 31st Infantry (American) and the Coast Artillery units garrisoning the Harbor Defenses to Manila Bay. The Philippine Division at this time consisted of some 4,000 highly trained native troops. There is a general agreement among those officers who have served with this unit that no finer soldiers ever wore the American uniform. They were well disciplined, their esprit de corps was of the highest quality, and their noncommissioned officers were men of long service, carefully selected for their reliability, their administrative ability, and their qualities of leadership. Intense loyalty characterizes the Philippine Scout. In no element of the Philippine Division were these qualities more highly developed than in the 12th Medical Regiment (PS). Although it numbered but two hundred members prior to 1941, yet in a broad sense the history of the field medical service of the Philippine Campaign is largely that of the activities and influence of this small Regular Army medical unit. In many respects this organization is unique in the annals of the medical military history of the United States for it is doubtful if any unit of similar size has ever contributed so much to the medical service of a major campaign.

The defense forces of the Philippine Commonwealth consisted of one skeletonized regular division, the Philippine Army, and a police force known as the Philippine Constabulary. The Philippine Army was a conscript army, the personnel of which had received a five-months' course of basic training within the past five years prior to the War. After this period of training they were placed on a reserve status and assigned to one of the ten small divisions into which the Philippine Army was organized. Certain of the noncommissioned officers had participated in two or more such training periods. The commissioned personnel consisted of relatively untrained reserve officers. A few of the officers had seen service in the Philippine Constabulary. The Philippine Army Division is a small triangular division and as such contains a medical battalion and the usual attached medical personnel. (In the Philippine Army the medical detachments to infantry regiments are called medical companies.)

During the year prior to the onset of the War, the 12th Medical Regiment (PS) was engaged in the following activities:

(1) War Plans. The officers and men of this medical unit participated in all maneuvers and reconnaissances of the Philippine Division (PS) with a view towards perfecting the medical sections of war plans relating to the defense of the Philippines. A final period of intensive reconnaissance work occurred in the period from November 1940 to February 1941. At this time medical installations for the two major

defense positions in Bataan were relocated, as were sites for rear-area general hospitals. The value of such detailed planning prior to war is too self-evident to require comment.

(2) Recruit Training. In January 1941, authorization was obtained to increase the Philippine Division from 4,000 to 8,000 Scouts. The 12th Medical Regiment doubled its organizational strength at this time. An intensive training program was inaugurated and so successfully carried through that by December 1941 this increment consisted of thoroughly trained medical soldiers, both technically and spiritually prepared for active service.

(3) Medical Detachments. Prior to August 1941, only those units of the Philippine Division stationed at Fort Stotsenburg were provided with authorized medical detachments. All other units were dependent upon personnel from the 12th Medical Regiment (PS). The seriousness of this gap in the medical service of the Philippine Division was brought to the attention of the Commanding General, who in May 1941 gave authorization to select and train cadres for all units stationed at Fort William McKinley. This training was carried out by personnel of the 12th Medical Regiment, these cadres later becoming the nuclei around which the medical detachments of these organizations were formed. Personnel to fill the key noncommissioned officer positions in these newly formed detachments was furnished by the 12th Medical Regiment.

(4) To augment the medical service to the 45th and 57th Infantry (PS) their regimental bands were trained in first-aid work and litter bearing during the summer of 1941.

(5) Philippine Army Training School. Acting under instructions from the Surgeon, H.P.D., the 12th Medical Regiment operated a training school for the officers and noncommissioned officers of all Philippine Army medical units from September 1, 1941 to December 1, 1941. The subject matter embraced all phases of division medical service and included elaborate field exercises. The value of this training course which was attended by some 1,300 officers and noncommissioned officers from all ten Philippine Army divisions and completed just one week before the opening of hostilities, was immense. For the majority of the Philippine Army medical officers and non-commissioned officers, this three-months' training school was their only serious, comprehensive training prior to the War. The impress of the 12th Medical Regiment, its spirit and morale, was left upon every medical unit of the

Philippine Army. It is to be regretted that after these officers rejoined their recently mobilized organizations, no opportunity was afforded for unit training prior to the War. The first tactical participation of these Philippine Army medical units occurred under grim real battle conditions after the invasion of the Philippine Islands.

(6) Reorganization of Philippine Division. In August 1941 the Philippine Division reorganized as a triangular division the 12th Medical Regiment now becoming the 12th Medical Battalion with Companies A, B, and C Collecting and Company D Clearing. One collecting company was attached to each of the three combat teams of the Division. This arrangement continued throughout the campaign. The medical units of the Philippine Division took the field on December 8, 1941, with approximately two-thirds of their T/O strength in respect to both officers and enlisted men. Only the key positions were held by Regular Army officers, the balance being made up of recently arrived reserve officers. The reorganized 12th Medical Battalion functioned smoothly and efficiently throughout the entire campaign. In Bataan it became a medical task force.

Equipment and Supply.

(1) Medical Units of Philippine Division. These units took the field on December 8, 1941, with largely improvised equipment made up of old, revamped, 1917-type medical chests. In the spring of 1941 request had been made for entirely new-type equipment for medical battalions and medical detachments. Every effort was made by the Philippine Department Surgeon to procure this equipment but no large shipments were received prior to the onset of hostilities.

(2) Philippine Army Medical Units. These units were practically complete in organic equipment according to their T/O. This consisted almost exclusively of simple medical field chests and included no tentage. Practically no reserve of medical supplies was carried by the Philippine Army and consequently these units were entirely dependent upon the Philippine Department Medical Supply Depot for replacement of items of all classes of medical supply during the campaign. The most serious deficiency in the organization and equipment of the Philippine Army Medical Battalions was the absence of a laboratory section in the Clearing Company. The microscope was not an item of equipment which meant that in Bataan these medical units were seriously handicapped in their efforts to control and treat intestinal infections and malaria.

(3) Transport. On December 8, 1941, medical units of the Philippine Division were equipped with only about 25% of their organic transportation. This deficit was made up by the use of civilian taxis, trucks, and buses. The Philippine Army was entirely dependent upon such vehicles.

B. Withdrawal to Bataan. (December 8, 1941 to January 7, 1942.) The defense force of Luzon on December 8, 1941, consisted of the Philippine Division (PS) and nine partially mobilized Philippine Army divisions whose strength varied from 4,000 to 6,000 each. Two forces were organized, a "North" and a "South" Luzon Force, whose mission it was to meet and defeat the enemy at the beaches. The Philippine Division was placed in a reserve position in Bataan. During the month of December, 1941, the enemy made a series of landings on both north and south Luzon, driving the defense forces back toward Manila. This phase of the campaign consisted of a series of delaying actions. In many respects this opening phase of the War can be looked upon as a period of intensive training for these medical units. Very few battle casualties were sustained in the course of the withdrawal. The sick and wounded who were unfit to accompany their units to Bataan were left in civilian medical facilities for care and treatment. Relatively few cases were evacuated to the General Hospital Center in Manila.

As soon as it became certain that a Bataan campaign was inevitable, every effort was made to evacuate medical supplies from all sources to Bataan. In late December, 1941, a surgical hospital was established at Limay, Bataan, and a general hospital was set up on a site near the Real River about two kilometers west of Cabcabin. (See map #3) Both installations were ready to receive patients on January 7, 1942.

C. Bataan Campaign. (January 7, 1942 to April 9, 1942) On January 7, 1942, the American forces completed their withdrawal to the Bataan peninsula and established themselves along a defense line running roughly from Abucay to Moron. (See map #3) The enemy held the base of the peninsula and controlled the water approaches by reason of his sea and air power. No additional supplies in sizable quantities could now be obtained. Self-sufficiency was imposed upon the defense forces from this date. Consumption without replenishment became the distinguishing feature of this campaign. A defeat due to attrition alone became inevitable.

Existing War plans had called for a force of some 30,000 men for the defense of Bataan and had stressed the necessity of evacuating all civilians from the area in the event of war. On January 7, 1942, the American force in Bataan consisted of 78,000 military and 6,000 civilian employees (used largely as laborers). This amounted to a total of 84,000 men, or a force almost three times as large as that called for in War plans. In addition there were between 25,000 and 30,000 civilians in Bataan who were largely

dependent upon the defense force for food and medical supplies. Both of these classes of supply were totally inadequate for a population of 110,000. This civilian population imposed an extra burden upon the Medical Department which assumed responsibility for their care and treatment. The small staff of Filipino Doctors and Nurses from the provincial hospital at Balanga Bataan, were of great assistance in caring for these people.

A most serious situation existed in the matter of supply because of the fact that many units of the Philippine Army had reached Bataan with an inadequate supply of organizational and individual equipment. These troops had not received proper training in property responsibility and the importance of conservation of supplies. A considerable quantity of their property was abandoned during their withdrawal to Bataan. Many of these troops in combat positions had only the scanty clothing worn by them during the withdrawal. A large percentage were without shoes, raincoats, blankets, and shelter halves. The Philippine Army was not equipped with individual mosquito bars. Moreover, there was little or no tentage. Inasmuch as the defense line in many places ran through mountainous terrain, where the nights were quite cool, considerable hardship resulted. These shortages were of vital import in reference to the incidence of malaria, hookworm and respiratory diseases. Reserve stocks of these items which might have made up such deficiencies did not exist. Stringent rationing of all classes of supply was put into effect, the most serious restrictions being placed on food. All troops on Bataan were placed on half rations on January 7, 1942. Further reductions were made periodically in order to prolong the period of defense.

The medical service of the Bataan Campaign will be considered in three phases, corresponding to the two major defense positions occupied and the final drive of the Japanese terminating in the capitulation of the American forces.

(1) First Defense Position. (January 7 - 26, 1942) (See map #3) Inasmuch as lines of communication determine hospitalization and evacuation plans, consideration must here be given to the existing road and trail network of Bataan on January 7, 1942. (See map #3) Hugging the eastern shoreline of Bataan, an all-weather two-way road known as the "East Road" runs from Lyac Junction to Mariveles. From Cabcabin north this road follows a fairly level course along the bay shore. The road from Mariveles to Moron is known as the "West Road." It is an extremely tortuous road cut through dense jungle into the steep sides of the main mountain mass of Bataan. In many sections it is open to one-way traffic only. The work of widening, straightening, and surfacing this road was under way when the war began. The only connecting link between the "East" and "West" roads is the Pilar-Bagac

road which crosses the peninsula through a low saddle between the north and south mountain masses. This is an all-weather, two-way road. Except for a few old logging roads in an extreme state of disrepair, no other roads existed in lower Bataan at the onset of the campaign. On the east side from Orion north there is an agricultural area extending inland toward the mountains for several kilometers. A number of narrow secondary roads penetrated this area. This is the only section of Bataan of any size that is under cultivation. Jungle conditions characterize all other areas. A number of trails, mostly heavily overgrown, penetrate the jungle. The jungle is practically impassable, except for these trails. The flora is largely tropical timber with an undergrowth of small shrubs densely matted together by the intertwining vines.

The first Battle of Bataan was fought along the general line of Abucay--Mt. Natib--Moron. (See map #3) From the eastern shore west to the Abucay hacienda the line passed through level, open country consisting largely of rice fields. From this point west the terrain is very mountainous with jungle conditions obtaining.

In view of the location of the two general hospitals along the "East" road, the line of evacuation for both corps was down the "East" road, using the Pilar-Bagac road for cross communication.

The heaviest fighting occurred on the right of II Corps in the areas of the 57th Infantry (PS) and the 41st Division (PA). An old church with massive stone walls in Abucay proved ideal for a combined regimental aid and collecting station for the 57th Combat Team. A similarly constructed church and the Provincial Hospital at Balanga were utilized by the 41st Medical Battalion (PA). The collecting companies operated forward ambulance service direct to the various regimental aid stations as far inland as the hacienda. Inasmuch as these routes were frequently under heavy artillery fire and were also exposed to aerial bombardment, the work of the ambulance drivers was especially worthy of commendation.

Every effort was made during this engagement to keep all division medical installations in a state of high mobility by rapid evacuation since it was considered likely that a withdrawal to the reserve battle position might become necessary at any time. With this in mind, all but the very minor cases were evacuated by the collecting companies direct to the general hospitals. A system of Army evacuation was not in effect at this time. Because

of the short distances involved, this arrangement was entirely satisfactory.

The enemy made two serious break-throughs of this initial battle position. On January 20th, they penetrated the area of the 51st Division (PA). During the precipitate retreat that followed the medical companies (medical detachments) lost a large portion of their equipment when they were deserted by their line troops. On January 24th the Japanese infiltrated behind the position of the 1st Division (PA) and established themselves on the road south of Moron, thus cutting the only line of communication of this division. The only avenue of withdrawal lay along the beach and conditions were such that very little equipment could be carried out by this route. During the nights of January 24th and 25th there was an organized withdrawal to the reserve battle position.

(2) Second Defense Position: (January 26 to April 2, 1942) (See map #4). The new defense position ran roughly parallel to and slightly below the Pilar--Bagac road. An entirely different situation now existed in regard to evacuation. The Pilar--Bagac road, the only highway connecting the "East" and "West" roads, was now denied to us and could no longer serve as a channel of evacuation. Traffic was now limited to the coastal highways.

South of the Pilar--Bagac road, Bataan is roughly a gigantic volcanic cone, the sides of which rise abruptly from the shore line to form Mt. Mariveles. The slopes of this cone are ribbed with deep ravines formed by rapidly flowing mountain streams, the natural habitat of the malarial mosquitoes. The entire area is clothed with a dense luxuriant tropical growth which offers unlimited cover. To traverse the country in an east--west direction along the new position was a slow and arduous process of clambering in and out of these deep ravines which in this section radiated like the ribs of a fan from the summit of Mariveles Mountain towards the Pilar--Bagac road. A few old, overgrown mountain trails existed in this area. These were the sole means of access to the major portion of the defense line.

In I Corps there existed an old logging road (Trail #17) running roughly along the regimental reserve line, which was available for the services of evacuation and supply after repairs had been effected. Three clearing stations were located along this channel. The area was within easy artillery range and was frequently shelled, but fortunately these medical installations received no direct hits.

In II Corps, by January 26th, the Engineers had broken a crude road along trail #2 (See map #4) as far as the San Vicente River. Beyond this no means of communication existed save by foot trails which at this time were in a state of extreme disrepair. The 41st Division (PA), 21st Division (PA) and the 33d Combat Team (PA) occupied this inaccessible area extending from the San Vicente to the Pantingan River. It was obvious that the medical installations serving these units must be self-sufficient, and that no evacuation would be possible for a considerable period of time. One American officer and one NCO of the 12th Medical Battalion (PS) were assigned to each of these three Philippine Army medical battalions to assist them in setting up their division medical installations with only such equipment as could be hand packed into this area over difficult mountain trails. After three days of arduous trail work all units were in position. The clearing companies of the 41st and 21st Medical Battalions (PA) constructed from jungle materials 400-bed field hospitals. A 150-bed installation was set up for the 33d Combat Team. The Filipino soldier displayed unbelievable ingenuity and skill in the construction of these clearing stations. After the dense undergrowth had been cleared away, bamboo frames were erected, on which patients were placed. These were covered in order to give protection from the weather. No tentage was available. Cover was so perfect that low-flying planes were unable to detect the presence of these field hospitals and one could pass within a few yards of them in the jungle without being aware of their presence. All necessary medical and surgical procedures were carried out in these jungle hospitals. Cases were quickly returned to a duty status. Time lost from illness and injury was reduced to a minimum. The 21st Clearing Station operated for three weeks before evacuation became possible over newly constructed roads, the 41st Clearing was without evacuation for six weeks and the 33d Clearing for a period of two months. An excellent description of the type and quality of medical work performed by these organizations is contained in the following letter of appreciation which is quoted in full:

HEADQUARTERS SUB-SECTOR "D,"
II CORPS

In the Field

March 5, 1942

SUBJECT: Appreciation

TO: Surgeons

RESTRICTED

21st Division (PA)

41st Division (PA)

33d Combat Team (PA)

1. Please convey to your officers and men my sincere and deep appreciation of the splendid medical service provided your respective units during the trying circumstances incident to the occupation and organization of this sub-sector. The extreme difficulties attending the establishment, operation, and supply of your medical installations in the absence of any means of transportation except foot and pack trails is fully appreciated and understood by me. Your officers and men are deserving of the highest praise and commendation for the speed and efficiency with which the wounded have been evacuated by hand litter over difficult trails and under fire from almost inaccessible areas of the Out Post Line. The work of the medical personnel accompanying patrols has been an exhibition of the highest courage and a major morale factor in the operation of these patrols. It is extremely gratifying to me to know that when circumstances prevented evacuation of your casualties to Rear Echelon medical installations, a condition which characterized this sub-sector for several weeks after its occupation, you have shown the capacity to be self-sufficient within your area and from your meager and improvised equipment have been able to provide the essentials of medical and surgical care to your patients. The continuation of this policy of treating all but the more seriously wounded and ill, now that evacuation is possible, is very commendable in reducing the number of duty days lost. The absence of epidemics within your units is a direct index of the efficiency of your medical inspectors.

2. I take great pleasure in extending to you and your medical personnel this expression of appreciation of your splendid performance in keeping with the highest quality of medical tradition.

Maxon S. Lough
Brigadier General, U.S. Army
Commanding

There is no intent here to single out any particular medical unit for special mention. Mention has been made of these three Philippine Army medical units only as an illustration of the character of medical work that typified all organizations in Bataan. The efficiency with which these recently mobilized and relatively untrained Philippine Army medical units functioned is a tribute to

the courage, fortitude and ability of the Filipino. Improvisation was a necessity and was exercised with a high degree of originality and invention. A bare minimum of medical and surgical equipment was available. There were serious shortages in all classes of supplies; food, clothing, blankets, and medical supplies.

The work of the medical companies in evacuating to the battalion aid stations and evacuation from the collecting companies to the clearing stations was a most arduous procedure which involved hand carrying up and down steep and narrow trails. The work of these units is especially noteworthy when cognizance is taken of the fact that during the campaign the ration varied from 2,000 to 1,000 calories per day. All personnel suffered great loss of weight with serious muscle wasting. Attempts were made to utilize the carabao and the native ponies for evacuation purposes but both animals were found to be unsuitable. Medical personnel accompanied all patrols operating beyond the Outpost Line of Resistance. The type of medical service furnished was no small factor in the maintenance of high morale among the combat troops. The Red Cross emblem was not displayed over any division medical installation.

The following typical report was rendered by the Surgeon of the 21st Division (PA) regarding the operation of a division medical service in Bataan. Of the three organizations mentioned above, this unit was most favorably situated as far as accessibility was concerned.

United States Army Forces in the Far East
Headquarters, 21st Medical Battalion (PA)
In the Field

March 14, 1942

SUBJECT: Medical Service of the 21st Division (PA) from Jan. 26, 1942 to March 1, 1942.

TO: Surgeon, Sub-sector "D," II Corps, In the Field

In compliance with the letter from that office, dated March 6, 1942, the following report on the medical service of the 21st Division (PA) during the period from Jan. 26, 1942 to March 1, 1942 is hereby submitted.

1. The Clearing and Collecting Companies of the 21st Medical Battalion arrived at the area assigned to them on Mt. Samat by hiking up the mountain on newly opened trails, each man carrying his meager personal baggage and as much

medical equipment as he could carry on his shoulders or on opened litter. Because of the difficulties of transporting everything by man carry, all non-essential equipment were left at Lamao where the Headquarters Company was left to watch them. After locating good sites and establishing our stations, the problem that confronted us was the transportation of casualties from the Collecting Stations to the Clearing Station. As the only means of communication was by foot trails, there was no alternative but to carry them by litter. Fortunately, the 21st Infantry was held in reserve and the "A" Collecting Company did not have to function as such. This company was then utilized to carry the casualties from the "B" and "C" Collecting Stations to the Clearing Station. Another problem was the impossibility of evacuation from the Clearing Station because of its inaccessibility to ambulance.

On March 5, the 21st Infantry was assigned a sector at our front. The "A" Collecting Company had to move and establish a Collecting Station at the rear of this regiment. This station is now very far from the other Collecting Stations and the Clearing Station.

To solve the problem of evacuating the casualties from the "B" and "C" Collecting Stations after the "A" Collecting Company had moved, one platoon of the Clearing Company established an advance Clearing Station near these Collecting Stations to take care of casualties right there without having to evacuate them to the main Clearing Station. Only serious cases and those requiring elaborate treatment are so evacuated.

Evacuation within the division has been an arduous task, both from the standpoint of human energy and time required. Litter routes are long and tedious, going up and down hills, along trails rendered difficult by big stones and obstructing vines. All available men of the Collecting Companies are utilized as litter bearers. Some men of the Headquarters Company and the Clearing Company are attached to the Collecting Companies to increase the personnel of the latter. It takes about three hours from the time a casualty is tagged to the time he arrives at the Collecting Stations and around one hour from the Collecting Stations to the Clearing Station. Undoubtedly this difficulty will be considerably increased during the rainy season when the trails become muddy and slippery.

Because of the difficulty of evacuation, it has been our policy to retain as many cases as possible not only at the Clearing but also at the Collecting Stations, evacuating only those cases requiring medical and surgical

attention obtainable only at the rear. This policy has been made possible by the relative inactivity at the front.

2. Supplies. Medical installations are short of litters and blankets. Woolen blankets are especially needed for casualties who are more or less in a condition of shock. The latter condition is usually associated with severe hemorrhage. Casualties in this condition are not fit for immediate evacuation and much good can be done to tide them over a critical period if they are given hypodermoclysis or venoclysis. Many lives would have been saved if these were available on time. The Clearing Station should have the apparatus and solutions for this purpose in sufficient quantity. Hemostatic drugs are also suggested. Surgical equipment is incomplete; there is no adequate sterilizer and many instruments are lacking. The necessity for adequate surgical equipment in the field cannot be overemphasized especially in view of the difficulty of evacuation to the rear.

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8. Special Problems in Sanitation and Epidemiology: Many cases are brought to the medical stations with fevers of an obscure origin. The difficulty of diagnosing these fevers without the aid of a microscope is obvious. It is essential that a microscope be obtained for use in the Clearing Station.

The most important problem of sanitation for the present is the control of flies. All sanitary measures for the prevention of the breeding and multiplication of flies have been recommended to unit commanders who are doing their best to enforce them. All unit trench latrines, considered to be the most important source of flies, appear to be properly covered but it is still believed that they continue to be sources because it is difficult to prevent flies from laying their eggs and the larvae can succeed in coming out because of their remarkable penetrating power. The use of disinfectants and larvicides is essential in order to eliminate latrines as sources of flies. The supply of disinfectants has been very inadequate and larvicides, such as crude oil, are not obtainable.

The most important problem of epidemiology for the present is the control of malaria. Due to the limited supply of quinine, this drug is not available for prophylactic use.

The number of intestinal and respiratory infections have been relatively few but with the rainy days ahead the

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increase of these cases is expected. Chances of pollution of sources of drinking water will be greater. Wetting and chilling of the troops cannot always be avoided. The strict observance of proper mess sanitation is an important preventive measure against the spread of intestinal diseases. The troops at the front cannot sterilize their individual mess equipment because of the impracticability of boiling water right there. There seems to be no possible way of doing this except bringing this equipment to the battalion kitchen where they can be sterilized. Adequate shelter from the rain, sufficient clothing to keep the body, especially the feet, warm will have to be provided to offset the tendency to respiratory diseases due to weather conditions.

Some units are not provided with such equipment and supplies as Lyster bags, boilers, and soap which are indispensable to the observance of field sanitation.

Division Surgeon.

The above is illustrative of the problems that faced these relatively untrained Philippine Army medical organizations.

About March 1 certain conditions arose which made it necessary to adopt a policy in conflict with the recognized principles of division medical service. The shortage of motor fuel became so acute that normal evacuation procedures had to be abandoned. In addition the sharp increase in the malarial rate, in the dysenteries and nutritional edemas was such that the limited facilities of General Hospitals 1 and 2 made it necessary to limit evacuation in general to two types of cases: those requiring a type of treatment not available in division medical installations and those whose return to a duty status was either doubtful or a matter of prolonged hospitalization. Thus due to the fuel shortage, the limited rear-area hospitalization facilities, and in certain instances inaccessibility imposed upon the division medical units, it became necessary to hold and hospitalize cases in forward division areas. The clearing station of each medical battalion became a hospital caring for three hundred or more patients. As the volume of patients increased in early March because of a steady rise in the malarial rate, dysentery, and conditions incident to a starvation diet, it became necessary to utilize the collecting companies for hospitalization purposes. These units set up 100 to 150-bed installations close to the front lines. By the end of March even these additional facilities became inadequate and it was necessary for the

medical companies (medical detachments) to hold and treat minor cases in battalion and regimental aid stations.

By April 1 all facilities for the care of patients in Bataan were strained to their absolute limit to provide even the semblance of hospitalization for the enormous sick rate. The 91st Clearing Company had expanded to 900 beds and was located about 4,000 yards behind the front line. Trees in and about this hospital were stripped of limbs by passing shells. The 11th Clearing Company was handling over 600 patients. In direct violation of all standard medical tactics, all division medical units were immobilized as a result of this forward hospitalization policy. This policy was forced on the medical service by reason of the conditions enumerated above. The perfect cover provided by the tropical jungle flora and the static type of defensive military operations made this policy feasible. However, a field medical service of this character, with thousands of patients in the forward areas, made it most essential to keep in intimate touch with the tactical situation at all points of the front in order that immediate and massive evacuation might be effected on very short notice.

Late in January a system of Army evacuation was put into effect whereby division units were relieved of the responsibility of transporting cases to the general hospitals. As was stated, every effort was made to keep the number of patients evacuated to a minimum. Those cases considered proper patients for a general hospital were collected at certain clearing stations or in some instances at a relay station which served two or more clearing companies. Prompt and efficient evacuation was provided by this Army medical service.

Medical Supply. Medical supplies were drawn directly from the Department Medical Supply Depot located at km. post 163 on the "East" road by the division medical supply officers. As a result of the loss of organizational equipment by several units early in the campaign, an acute shortage of medical chests existed. Numerous drug shortages developed during the course of the campaign, the most serious of which were the antimalarials. Severe restrictions were placed upon the issue of these drugs. A maximum of eight grams of quinine was allowed per case of malaria. Unit surgeons were required to keep an accurate check of the number of cases in their areas. Every effort was made to prevent hoarding by unit supply officers. Several small shipments of quinine and atabrine were received by means of air transport from Cebu. By this means sufficient antimalarials were procured so that prior to capitulation no cases were denied treatment. Unit medical supply officers

were urged to salvage dressings and bandages and to practice extreme economy in the use of all types of medical supply.

Luzon Force. On March 11, 1942, Luzon Force was constituted, and the office of the Surgeon, Luzon Force, was organized March 16th. All medical units in Bataan were included in this Force except General Hospitals 1 and 2, the Philippine Army General Hospital, and the Medical Supply Depot. These medical installations remained under the direct control of the Surgeon, U. S. Forces in the Philippines. In the short period of its existence, the office of the Surgeon, Luzon Force, in addition to its routine Army medical functions, concerned itself principally with the following three problems:

a. Plans for evacuation on very short notice of the 7,000 patients located in forward medical division installations: In the event of a break in the defense line, relatively large field hospitals were in danger of being overrun by the enemy. To avoid such a contingency was vitally important because of the character of the enemy, who in a victorious drive would be apt to slaughter both medical personnel and patients. Such tragedies occurred in the Malayan Campaign when forward medical installations were overrun by Japanese troops. As a precautionary measure the 12th Medical Battalion (PS) was transferred from II Corps to Luzon Force to be available as a medical task force in an emergency. Arrangements were made with the Motor Transport and Traffic Control Officers of Luzon Force for the assembly of large convoys of buses and for "right-of-way" priorities over motor highways.

b. Shortage of Medical Supplies: Close contact was maintained with the Medical Supply Depot regarding remaining stocks of drugs and supplies with a view towards allocating them where most needed. Quinine was rationed as stated above. It was possible to smuggle in one or two small shipments of drugs from Manila through secret agents of G-2. A native bark prevalent in Bataan was found which contained the quinine alkaloid. Plans were completed for the gathering, drying, and powdering of this bark and for its use as an infusion in the treatment of malaria when quinine became exhausted.

c. Decline in the Combat Efficiency of Luzon Force: In the latter part of March the Commanding General of Luzon Force was informed of the fact that the combat efficiency of Luzon Force was fast approaching the zero point as a result of malnutrition, malaria, and intestinal infections; that the tremendous noneffective rate, plus

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the inability of those on a duty status to undergo any long-sustained physical effort, would preclude any successful defense against a determined attack. The factors responsible for the physical deterioration of our forces are briefly discussed below:

(1) Malnutrition: With the advent of the half-ration on January 7th, the troops in Bataan were subjected to the ill effects of a diet that was deficient both qualitatively and quantitatively. The ration averaged about 2,000 calories per day during January, 1,500 calories during February, and only about 1,000 calories during the month of March. The operation of a defense in a mountainous jungle terrain which required hand carrying of supplies over difficult trails and the preparation of positions required a high energy output per man that can be conservatively estimated at not less than 4,000 calories per day. This large caloric deficit resulted in rapid depletion of fat reserves and by March 1st serious muscle wasting was evident in a large percentage of the command, with attendant weakness, loss of endurance, and nutritional edema. Since the principal component of the ration for the Philippine Army troops was milled rice, there was a serious shortage of both protein and vitamins. No fruit was available and the issue of canned vegetables and milk was negligible. All livestock on Bataan, including horses and ponies, were slaughtered and issued. Clinical or incipient beriberi was not only universal by April 1st but in combination with malnutrition and nutritional edema was the cause of the hospitalization of thousands of cases. On April 9th, the date of the capitulation, there was in Bataan only enough food to make one issue of a half-ration.

(2) Malaria: Malaria soon became the primary cause of admission to clearing stations and its incidence rose steadily until by March 1st it reached 500 cases per day. By April 1st the rate was approaching 1,000 cases per day and the shortage of quinine was so acute that the issue of the drug was based on an allowance of but eight grams per case. As a result of the inadequate diet, convalescence from the disease was greatly prolonged.

(3) Intestinal Infections: As would be expected in an army composed of untrained troops, there was considerable laxness in the observance of the elementary rules of field sanitation. Carelessness

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in the disposal of excreta was common in front-line areas. There was much promiscuous drinking of unboiled water from streams and pools. Mess gear was not properly washed and sterilized. The result was a rather high incidence of diarrheas and dysenteries. A serious shortage of drugs for the treatment of these conditions existed. Hookworm infestation was present in a large percentage of native troops because of their habit of going barefoot.

(4) Fatigue: An important factor which operated to reduce the combat efficiency of front-line divisions was that of fatigue. The majority of front-line troops received no period of relief or rest in a rear area during the entire campaign. While within regiments there was a rotation of battalions holding the Outpost Line of Resistance, yet even those troops in the regimental reserve line were subject to daily artillery and aerial bombardment. The fatigue resulting from constant nervous tension definitely decreased the ability of these troops to endure a heavy bombardment such as that which ushered in the final drive of the enemy.

(3) Final Period of Bataan Campaign. (April 2d to April 9th) On April 2, 1942, the enemy launched a heavy attack against the left of II Corps, the immediate objective being Mt. Samat. The attack developed rapidly, with the result that three clearing stations crowded with patients were in danger of being overrun by the enemy. On the night of April 2/3, convoys of about seventy-five buses each, operating under personnel of the 12th Medical Battalion (PS), began the evacuation of all medical installations in II Corps, priority being based on the tactical situation. This massive evacuation was completed on the night of April 5/6. The difficulties encountered by the personnel operating these convoys can be appreciated only by one who has seen the total chaos that existed in forward areas during this period. Roads were congested beyond description. In one instance a convoy was caught directly between enemy and friendly infantry fire.

The enlisted personnel of the 12th Medical Battalion were largely responsible for the success of this mass movement of patients. Although the margin of safety was in some instances very narrow, no medical installation was captured by the enemy prior to the capitulation on April 9th. A similar mass evacuation was effected in I Corps during the nights of April 5th, 6th, and 7th. More than 7,000 patients were transported to rear-area medical installations during

the period April 2d to 7th. The burden of initially receiving and housing this large body of patients fell largely on the personnel of General Hospital Number 2, who are deserving of the highest praise for the efficient manner in which they accomplished their task. To increase the bed capacity of this jungle hospital from 2,500 beds to 6,000 in a space of six days is an accomplishment unique in our military medical history. General Hospital Number 1 initially received patients during this period of mass evacuation, but after being twice severely bombed was considered unfit for the reception of patients. After the second bombing, bed patients from General Hospital Number 1 were transferred to General Hospital Number 2. To relieve the congestion at this hospital, all rear-area medical units were required to accept patients. A convalescent camp capable of caring for 3,500 patients was organized on April 7th. At the time of the surrender, on the morning of April 9th, there were some 12,000 patients in the service area. During the night of April 8th, surplus medical personnel and all women nurses were transferred to Fort Mills, Corregidor. The principal determining factor regarding the actual time of surrender was the situation of General Hospital Number 2, which with 6,000 patients lay directly in the path of the advancing enemy. On the morning of April 9th, the front was less than four miles from this hospital.

The capitulation of Luzon Force represents in many respects a defeat due to disease and starvation rather than to military conditions. Malnutrition, malaria, and intestinal infections had reduced the combat efficiency of our forces more than 75%. The Bataan Campaign can best be described as a campaign of attrition, a campaign in which consumption without replenishment was the rule. The physical fitness of our troops was so seriously impaired by March 1st that it became a determining factor in tactical operations. From that date onward the physical deterioration of our forces was so rapid that by April 2d a successful defensive stand was no longer possible.

4. THE REGIMENTAL MEDICAL DETACHMENTS, LUZON.

This report will deal primarily with conditions as they actually existed within the 45th Infantry Regiment, Philippine Scouts, during the Bataan Campaign. It should be understood that conditions in this particular unit, unsatisfactory as they were, do not give a composite picture of the difficulties and hardships encountered by the medical units involved in this campaign. The 45th Infantry (PS) was a well organized and well trained portion of the Regular Army of the United States prior to the outbreak of war, except for the fact that the Philippine division had never

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been authorized a Medical Detachment by the War Department. To offset this deficiency, however, a group of soldiers furnished by the various companies of the organization had been given special training in Medical Department activities for a period of several months prior to the outbreak of war. Although they were not allowed to transfer to the Medical Department, they were loaned by the Company Commanders to the Regimental Surgeon to help carry on the Medical Department service throughout the War in Bataan. Two men from each company had been given this special training and, in addition, members of the Regimental Band had been given some training in first aid and stretcher bearing. None of these had ever been given training for organized Medical Detachment work in the field.

The officer strength of the Medical Detachment consisted of the Regimental Surgeon and one assistant prior to the outbreak of war. These officers were in the midst of training these combat soldiers loaned by the Regiment for use by the Medical Department when the outbreak of war occurred. One Battalion of the 45th Infantry had been on beach defense duty in Bataan for some time prior to December 8th.

It was not until December 26th that the author of this report took over the duties of Regimental Surgeon for the 45th Infantry. On this same date a full complement of eight Medical officers and one Dental officer were finally attached to this Regiment for duty. There were immediately assigned two Medical officers to each Battalion, and the Regimental Surgeon with one assistant and one Dental officer remained with the Regimental Headquarters. Even at this late date we still had only about one-third of the enlisted personnel that was required to operate a satisfactory medical service for the Regiment and this matter was taken up with the Regimental Commander, who cooperated in helping round up men from the Band and from the Military Police detachment to serve as litter bearers and help out with the necessary routine around the aid stations. Many of those men assigned to us at this time had been given absolutely no previous training in Medical work, but as time went on most of them proved to be of great help to us in carrying out our duties in the evacuation of wounded. Without them we would not have had enough men to form a litter squad for the various Battalion Aid Stations.

The men who had been furnished by the companies for training were, in general, left with their respective units as company aid men. From all reports reaching me, from their unit commanders, as well as from casualty reports, these men did a job that lent credit to the Medical Department even though they were still carried officially as combat troops.

In addition to this improvised Regimental Medical Detachment, the 45th Infantry (PS) was set up as a combat team with its own supporting and service units attached. Consequent to this arrangement Company A (Collecting) of the 12th Medical Battalion was attached to and served directly under the Command of the Commanding Officer, 45th Infantry throughout the Bataan Campaign. It is my opinion that having this company of highly trained medical personnel constantly available helped more than any other single factor to enable us to render efficient medical service to our combat units in the field.

This Company had been given complete and thorough training in field operations for years prior to the beginning of hostilities and its functioning in the field under combat conditions reflected the thoroughness of its training. The equipment was old and not complete in many respects, but where facilities were lacking improvisations were made and the work of evacuating and caring for the wounded went on without complaint.

Immediately after the declaration of War, the Philippine Division, excepting the 26th Cavalry, was ordered to Bataan, to defend the beaches along the West Coast and to organize and develop its sector of the second defensive position along the Pilar--Bagac road. The Regiment was divided from the beginning, with one battalion located at the South end of the peninsula to the west of Mariveles and with the Regimental Headquarters and two battalions occupying the area in the vicinity of Bagac along the west central portion of the peninsula, a distance between the two of some thirty kilometers. Thus it became necessary from the very beginning to divide our limited medical personnel into separate functional units to take care of these widely separated portions of our combat force. In addition to the battalion section of the Medical Detachment, a section of the Collecting Company also had to be detached to furnish medical care and temporary hospitalization for that unit as well as ambulance service for evacuating any seriously ill or wounded. I mention this only because it is a condition that developed in practically every combat situation in which the 45th Infantry (PS) was engaged throughout the Bataan Campaign. Had we had adequate personnel and equipment it would have resulted in nothing more than a temporary inconvenience, but with supplies and equipment so limited it sometimes taxed our facilities as well as personnel.

Around the 15th of January, 1942, the 45th Combat Team was ordered into the Abucay--Natib--Moron line occupying a position near the Abucay Hacienda in the II Corps area. It was here that our Regimental Medical Detachment had its first opportunity to prove its worth under combat conditions. The Japanese Army had made a penetration in our line and the 31st and 45th Infantry Regiments had been thrown into the line at this point in an effort to stop this break-through and reestablish our line along our prepared defense position. As a result, the fighting was heavy and

casualties relatively high from the beginning of this first encounter with the Japs.

The terrain was such that our battalion aid station trucks had to be left along the line of departure and all medical supplies had to be hand carried on litters from that point forward. Battalion surgeons were advised to establish their aid stations in the vicinity of their respective Battalion Headquarters in order that the Regimental Surgeon could keep in telephonic communication through our headquarters line and could send supplies and ambulances forward to collecting points along the Abucay Hacienda road. This arrangement proved to be a great convenience because both Battalion and Regimental Headquarters gave us full cooperation in the use of their line and as a result supplies were forwarded by every available means: litter squads going in to carry out the wounded, ration details going in with food, and by ambulance to collecting points along the road where they would be picked by details from the Battalion sections. In addition to this arrangement for forward communications, the collecting company was established with its forward section in the vicinity of the Regimental Service Company and arrangements were made for the use of its line from Regimental Headquarters to keep in contact with our ambulance section. One ambulance was kept at all times at the regimental aid station and when a call from one of the forward units came in for an ambulance this ambulance would be sent forward immediately to the designated point and the next ambulance from the rear would be held at Headquarters to be dispatched to the next unit sending in a call. In this way our limited ambulance equipment was made to cover the load required of it in a satisfactory manner.

Although I am not able to give a first-hand account of the conditions under which the battalion Medical officers and men had to work during this engagement; I am of the opinion, from information that reached me, that never in the history of warfare have men of the medical profession been required to carry out their duties under more trying and disheartening circumstances. In some instances the terrain was such that wounded men on stretchers would have to be lowered from the steep cliff of a deep ravine by ropes improvised from vines cut from the jungle and then carried by litter back to the only road that penetrated the area. At no time during this encounter were they able to secure themselves from the constant bursting artillery and the smaller charges of the Japanese knee mortar as well as the constant harassing of the of the low-flying dive bombers, yet they carried on to the satisfaction of all.

The rear section of the collecting company was established in an old church in Balanga throughout the first Battle of Bataan and remained in operation until the main body of our combat troops had been withdrawn to their second defense position along the Pilar-Bagac road leaving only a "shell" to hold back the enemy until their new position could be occupied. This withdrawal occurred on the night of January 25/26 and it

was during this final hour that Jap artillery opened up on the building in which the collecting company was housed. This shelling resulted in quite a few casualties among the patients still in the station and a Medical officer of Company A was wounded by a fragment of the shell which killed the patient whom he was attending.

The morning of January 26th found the 45th Infantry in its new position on our second defense line in I Corps. After an all night forced march of some twenty-five kilometers, one company from each battalion of the 45th, along with medical personnel, was left to form the "shell" or covering force for our withdrawal.

On the morning of January 27th, the 45th Infantry was ordered to bivouac in the vicinity of the Saysain River, to be held in corps reserve, but by afternoon of the same day the 3d Battalion was ordered to move south to Anyasan Point where the Japs had effected a landing and were threatening our lines of communication in the left flank. This move again necessitated splitting up our medical installation to over the fighting in that area. The following day the 2d Battalion was ordered to the adjoining sector known as Quinauan Point and that afternoon the Regimental Headquarters and 1st Battalion were ordered back into action in the Tuol River sector of the main defense line some twenty-five kilometers in the opposite direction. Thus the combat units for which we were responsible were fighting on two widely separated fronts and with all three battalions committed at the same time. In addition the attached artillery and engineering units, for which we were responsible also, were scattered all along the trail between the two infantry fronts.

I mention this tactical situation only to give some idea of the distances involved in our effort to render medical service to our command. These distances had to be covered by ambulances operating over winding, narrow trails that had been carved through the jungles of Bataan by our corps of engineers.

The chief obstacle to be overcome in this second situation was the one of evacuation from our various aid stations, back to the collecting station or to one of the general hospitals, as the seriousness of the cases warranted.

To accomplish this mission with our limited facilities, the base section of the collecting station was established along the main west road a distance of about five kilometers to the north of Quinauan and Anyasan Points and was expanded by improvising beds from bamboo strips taken from the jungle to accommodate most of our sick and minor wounded for definitive treatment. One section of ambulances operated between this station and the two battalions engaged at Anyasan and Quinauan Points, taking only the seriously wounded back to one of the general hospitals and bringing sick and minor wounded to the collecting station for treatment.

The other section of ambulances operated forward from the collecting station a distance of some twenty to twenty-five kilometers to the Regimental aid station and the aid station of the 1st Battalion. These ambulances were kept in constant operation forward. As soon as each ambulance reached the station and unloaded it would return immediately to the regimental aid station, where it would be held until a full load of wounded accumulated and it would then be released to go back and unload, with instructions to return without waiting for a call. It was only by using every available means of moving the sick and minor injuries back that we were able to cope with the evacuation load from this sector.

At the conclusion of these two battles around the 12th of February, 1942, our collecting station resembled a good size field hospital with most of our patients then suffering from malaria, dysentery, and various minor injuries, these being treated entirely within our own unit, and only the serious cases being evacuated to the general hospitals.

At the conclusion of these two battles the 45th Infantry was again ordered into bivouac and placed in Army Reserve. This time the entire regiment was bivouacked on Bobo Point.

During the heat of battle at Quinauan Point one of the key noncommissioned officers developed a severe toothache and word was sent that the Regimental dentist was badly needed in that sector. This necessitated sending him a distance of some twenty to thirty kilometers from the Tuol River sector down to Quinauan Point to do an extraction and since the Commanding Officer felt that he could not get along without this man the dentist was sent down and the extraction accomplished. However, after this battle was over and the regiment went into bivouac, it was recommended that a dental survey be carried out in the field and all suspicious looking teeth extracted before we were ordered back into battle. This was done and the Regimental dentist actually did ninety-four extractions in one day in the field. Needless to say, we had no further trouble with key men being out of action on account of toothaches. Although circumstances did not afford much opportunity for the men to get dental treatment during actual combat, the Regimental Dental Officer became one of the busiest officers in the regiment as soon as we went into bivouac. I do not mean to say that he did not keep busy during combat conditions, but at that time was doing other medical tasks, not primarily dental.

During the Battles of Tuol River and Quinauan and Anyasan Points, the ration which had been less than one-half the regular field ration since January 7, 1942, was reduced more drastically than anyone had realized and men of the 45th were already beginning to show physical signs of deficiency. At one time during the Battle of

Tuol River the rice ration reached an all-time low of seven ounces of rice per man per day. This condition prevailed for only a few days, when it was raised again to nine ounces per man per day. The only other item of the diet which was received in significant quantities was salmon. By the end of February, the diet consisted almost entirely of rice. During March the diet averaged about one can of salmon for fourteen men and nine ounces of rice per man per day. There were a few other items but the quantity was insignificant, for example, one can of evaporated milk for twenty to thirty men per day.

After the Battles of Quinauan and Anyasan Points and of the Tuol River sector, the 45th Infantry went into Corps reserve on Bobo Point, where it remained during the remainder of February and the early part of March. This bivouac area was so situated that it did not necessitate moving the base section of the collecting company and during this period it served the regiment more as a hospital than as a collecting company. By this time gasoline was rationed so severely that only a few gallons per day was authorized for medical purposes for the regiment. Consequently most of our sick were treated within our own unit installations. Quinine for prophylactic use had been discontinued and consequently malaria became rife. Most of the places suitable for the bivouacking of troops had been previously occupied by other units less well disciplined in the employment of field sanitation methods with the result that the area into which we moved was thoroughly contaminated. Flies were swarming everywhere and breeding faster than could be coped with and streams had been polluted with human feces. In spite of every effort to control flies and exercise every due precaution, such as boiling all drinking water and having a Medical officer personally inspect the mess line at every meal and supervise the sterilizing of mess equipment after each feeding, dysentery became prevalent. Few men in the outfit escaped without some form of acute enteric infection. Most of these now had to be treated either at the battalion aid stations or evacuated no further to the rear than our own collecting station. Sulfa drugs were running short and only the most serious cases could be treated with sulfa drugs, the milder ones being treated only by nonspecific remedies.

While in this bivouac, orders were issued for all troops to be given injections of a mixed vaccine for cholera and dysentery which was a product of the Philippine Department of Public Health. This order was carried out throughout the regiment, but its effectiveness in reducing the incidence of dysentery was not perceptibly demonstrated.

Around the 10th of March the 45th Infantry was ordered back toward the second general defense line and bivouacked near the junction of trails 9 and 17 where it remained until the final days of the war on Bataan. Except for the constant harassing effect of low-

flying dive bombers and an occasional flurry of artillery we had no further combat until the final push.

During this last period one bomb was dropped in the collecting station, which had been set up for only a few hours. This resulted in the death of only two patients and a few minor injuries.

At the end of March deficiency disease had become so prevalent that a physical inspection was ordered for all troops in the 45th Infantry with a view to finding out what percent of this unit was actually showing physical signs of deficiency disease. When the final report was in, it disclosed an alarming high of over 18% of the command to be exhibiting physical signs and over 50% complaining of symptoms definitely pointing to deficiency disease. Nutritional edema was the first and most prevalent physical sign and night blindness one of the commonest complaints.

The diet during the last month in Bataan had averaged less than 1,000 calories per day and consisted chiefly of polished rice. The Regimental Headquarters mess received one can of salmon for fourteen officers per day and an occasional cup of sugar but never in sufficient quantities to be of any significance in figuring the caloric value of the diet. Men were becoming so weak from starvation that they could hardly carry the packs and in our last move I saw more scouts fall out of the line of march than I had ever seen fall out on any march before.

During the final days in Bataan orders were given to remove all patients in I Corps back to or beyond km. post 208 along the west road. Complying with this order necessitated moving all patients then sick in the aid stations, collecting stations, and in several of the Philippine Army clearing stations, which had been set up and operating as regular field hospitals for many weeks. The total number of patients moved in this last maneuver is not known but from the left subsector alone it is estimated that around 600 to 800 patients had to be evacuated. Convoy of large passenger buses were sent up from Army motor pools to accomplish this move and every available piece of transportation with our own units was put into operation. Patients that would, under normal field conditions, have been handled as litter patients were required to make this long, all-night move as sitting patients in regular passenger buses. The difficulties encountered in this mass movement of patients can be appreciated only by one who is familiar with the trails of Bataan and knows something of obstacles to be overcome in operating a convoy of large buses under blackout conditions. The problem of turning the convoy alone becomes one of almost insurmountable difficulty.

To give an accurate word picture of conditions as they actually existed at the time immediately preceding the surrender of

our forces on Bataan would tax the descriptive powers of a rhetorical genius, but in simple language almost every man on Bataan was suffering, not only from the effects of prolonged starvation, but also from one of both of the acute infections that plagued us throughout the campaign, viz., dysentery and malaria. I have seen men brought into the battalion aid stations and die of an overwhelming infection of dysentery or of cerebral malaria before they could be tagged and classified for evacuation. Of the supposedly well men in the field, all were thin and weak from starvation. Many were swollen with nutritional edema; a large percentage were pale and anemic from repeated attacks of malaria or dysentery. In addition every man was sick in spirit as our last ray of hope for reinforcement faded with the final order of surrender.

The following is an account of one of the Battalion Surgeons with a Philippine Scout Regiment in Bataan.

Our battalion medical detachment consisted of two Medical officers and twenty-six enlisted men. These men were Philippine Scouts and had been well trained for their duties in the field. They had the pride of organization so typical of all the scouts and their discipline and morale were of the highest type. Our unit was assigned to beach defense in the area from Agloluma to Mariveles, Bataan, from 10 December 1941 until 14 January 1942.

The medical aspects during this period were not unusual. Medical supplies conforming to the tables of supply for the battalion medical detachment were issued and preparations for combat were completed.

On 14 January 1942 we moved to a bivouac area on the Pilar-Bagac road. On the 19th we moved over the back road up to the Abucay Hacienda road and were immediately committed to combat. The Japanese were attacking by units without a formed line and on the first day of our attack we were able to push through to our main line of defense. Casualties occurred sporadically day and night through this period and were heavy. We remained on the Abucay Hacienda position, main line of resistance, until 27 January. Our food situation in this position was desperate, as we were completely cut off from our sources of supplies by Jap infiltration. An accumulated group of patients were immobilized in the aid station unable to be evacuated. The situation was relieved when one-half hour before our unit moved to a new position, food and litter bearers arrived. The wounded were immediately loaded and sent back to the hospital. This evacuation of wounded was eventually completed and constitutes one of the outstanding minor feats performed by Medical personnel during the campaign on Bataan. It involved a trip of five miles by this small litter caravan without escort, over the most impassable type of terrain. The group left at 3:00 PM and arrived at the ambulances, five miles back, at 1:30 AM.

When I saw them leave I felt they had a slim chance to get through alive, but the only alternative was to leave them, with medical attendants, to be captured. The chance of completing the trip was deemed more promising than the alternative.

At 3:00 PM on 27 January, our unit took up a new position on the same Abucay Hacienda line. That night the withdrawal of our forces from this line was effected and we took up a new position near Bagac at km. post 220. That night we bivouacked at km. post 218, and early the next morning orders were received to leave immediately for the Agloloma area to combat Jap troops which had landed from the sea on the left flank of the Bataan position. Our battalion formed the north flank of the encircling pocket around the Jap forces. We were attacked in continual combat from 29 January until 14 February, when the area was cleared of Japs. During this period our casualties were heavy. Jap machine gun nests were well dug in and it required hand-to-hand fighting to eliminate them.

Evacuation of the wounded was effected rapidly and the time lag from the time the wound was incurred until the patient was in a general hospital averaged only two or three hours.

Sanitation was difficult to keep under control. All water was chlorinated; slit trench latrines were used. It was impossible to use mosquito bars. Deficiency disease, malaria, and dysentery were beginning to appear in increasing numbers.

After leaving this area our unit was placed in reserve and a reorganization was effected. The regiment had been in continuous battle for one month and the personnel had been severely depleted.

Battle casualties accounted for the majority of the ineffectives, but disease was becoming an increasingly important element.

On April 5th our unit was ordered to move east on Trail 8, but the Japanese had broken through so thoroughly east of Mt. Sarnat that a union with the II Corps could not be effected.

I estimate that in Bataan, from 14 January - 9 April 1941, two-thirds of the original personnel were either killed or were casualties separated from the unit. The replacements taken from the Philippine Army were in even worse physical shape than the remnants of the unit.

By the time of the surrender, due to excess combat, starvation, deficiency disease, malaria, dysentery, and battle casualties, the unit was unfit for combat.

5. HOSPITALIZATION IN THE PHILIPPINES

The problem of hospitalization in the Philippines in the event of war with Japan had been given consideration for many years in the war plans drafted to meet such a contingency. As the major military effort had been expected in Luzon, plans were formulated for the development of a hospital center in Manila and expansion of various station hospitals. With Sternberg General Hospital as the basic unit, it was planned initially to develop sufficient annexes to handle from 3,000 to 5,000 patients and to expand further as the exigency of the military situation demanded. Accordingly a number of schools and colleges in Manila were tentatively selected for conversion into hospitals. Expansion of Sternberg Hospital was begun in the late summer of 1941 as U. S. Troops in the Philippines increased, and the Philippine Army was inducted into the service of the United States. The normal peacetime capacity of Sternberg was increased from 450 to 800 beds by November 15, 1941. Conversion of Estado Mayor Barracks on nearby Arroceros Street was in progress when war began. In June 1941, work begun on the old Station Hospital building at Fort William McKinley. For a number of years it had been used as a dispensary and for the treatment of a few minor medical cases, all other patients being treated at Sternberg. This building was reconditioned and a 250 bed station hospital established with adequate medical and surgical staffs. However, most equipment was obsolete as other areas were higher on the priority lists at that time and it could not be obtained in the Philippine Islands. At Fort Stotsenburg the 350 bed Station Hospital was fairly well equipped according to prewar standards and it had averaged a daily patient census of 175. A 750 bed addition was under construction when war began. At Fort Mills, Corregidor, expansion of facilities was carried out in late 1941, mostly by alteration and renovation of existing structures. Until 1941 no steps were taken to provide fixed medical installations on Bataan. Reconnaissance of that area was made repeatedly that year and the buildings of a small post at Linay, normally used for the housing of Philippine Scouts training in Bataan, were earmarked for use as a hospital. In the Fall of 1941 the equipment of one general hospital was stored in a warehouse adjacent to this post.

A. Manila Hospital Center: December 8th to 31st, 1941.

On December 8, 1941, development of the Manila Hospital Center was begun. To Sternberg General Hospital was assigned the mission of receiving and treating all casualties until such time as annexes could be prepared to take over part of the burden. On December 12, 1941, an order was issued constituting the Center. Its composition is as listed below:

- (1) Sternberg General Hospital - bed capacity, 800

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- (2) Annex "A" - Jai Alai, 214 Taft Avenue - bed capacity, 250
- (3) Annex "B" - Estado Mayor Barracks, Arroceros Street - Bed Capacity, 600
- (4) Annex "C" - Girls' Dormitory, Taft & Ayala Streets - Bed Capacity, 400
- (5) Annex "D" - Philippine Women's University, Taft & Vermont - Bed Capacity, 500
- (6) Annex "E" - Santa Scholastica College, 1532 Pennsylvania Street - Bed Capacity, 450
- (7) Annex "F" - Station Hospital, Fort William McKinley - Bed Capacity, 250
- (8) Annex "G" - Holy Ghost College, 163 E. Mendiola Street - Bed Capacity, 400
- (9) Annex "H" - LaSalle Extension University, 515 Colorado Street - Bed Capacity, 1000

The functioning of this Center, naturally, is divided into the reception and treatment of casualties and the development, equipping and staffing of the various annexes.

The full impact and brunt of the terrific problem so abruptly thrust upon the Medical Department was borne almost wholly by Sternberg Hospital. There were thirty-five Medical Department officers, thirty-seven nurses and 224 Medical Department enlisted men on duty at Sternberg when War began. On December 8th, the discharge of all non-urgent military and civilian cases and beneficiaries of the Veterans Administration was accomplished to provide maximum space for expected casualties. On the afternoon of December 8th, two medical officers, four nurses and forty enlisted men were detached and sent to the Station at Fort Stotsenburg to assist in the care of casualties incurred in the air raid on Clark Field at 12:00 noon that date. A brief resume of the care of gas casualties was given to the remaining personnel of Sternberg that afternoon. The organization of twenty surgical teams and the issuing of additional supplies also was accomplished. Construction of slit trenches in the grounds of the hospital for the protection of patients and personnel were begun, and rapidly completed in a few days. Blackout precautions which had been developed some months earlier were strictly observed. All personnel was placed on twenty-four hour duty status and many of the medical officers arranged to sleep in the hospital to facilitate care for the sick and wounded. A hospital mess was opened for all officer duty personnel.

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The problem of adequate personnel of all categories was most urgent. A cadre of some seventy-five Filipino Medical Corps and Dental Corps officers that were undergoing special instruction at Camp Murphy by American Medical Corps officers were assigned en masse to the control of the Manila Hospital Center. These officers were utilized at Sternberg and at the various annexes as they were organized. Certain of the Dental Corps officers were assigned as motor pool control officers, assistant supply and mess officers, etc. A large number of civilians, both male and female, registered for any type of work available and a great number of these were employed throughout the Center. Certain civilian missionary physicians were attached to the Center as described in the history of Annex "D". Four U. S. Public Health Officers offered their services and were sent to Corregidor about December 25, 1941. The greater part of the medical personnel from the Station Hospital at Fort William McKinley were amalgamated with Sternberg on December 13th and similar personnel from the Station Hospital, Fort Stotsenburg, were amalgamated December 24th and transferred shortly thereafter to Bataan.

Influx of casualties began during the early morning hours of December 9th. As the days passed and the bombing raids increased in severity, a steady flow of wounded arrived from Iba, Clark Field, Stotsenburg, Nichols Field, Cavite Naval Base, Manila, and later from the Luzon fronts. The surgical teams were extremely busy. Effort was made to provide rest periods but when the influx of patients was particularly heavy all surgeons were occupied as long as two to three days without rest. Nurses and corpsmen similarly shared the burden without complaint. Professional care of the patients was continued on a high plain of efficiency, although the personnel was hampered by fatigue from overwork and strain. The casualties were difficult to cope with as they were comprised of severe complicated fractures, burns, crushing and tearing injuries, perforations of viscera, skull and brain injuries. Due to the blackout and inevitable speeding of traffic in Manila and elsewhere, the accident rate rose sharply and a large number of severe traffic casualties burdened our overtaxed surgical staff.

Tension and strain was at a maximum during these early days. Air raid sirens wailed day and night. An attempt was made to keep the most serious cases on the lower floors and the less serious cases seek protection in the slit trenches during the raids. Due to our proximity to Philippine Army Headquarters which was directly across the street, it was felt that our area might be bombed at any time. This feeling was intensified as flights of Japanese bombers flew at will over our heads at a low altitude releasing their bombs on the port areas and walled city. Our buildings shook violently with each burst of bombs and caused extreme anxiety to the unfortunates unable to be moved to the slit trenches. During



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these trying hours the nurses, medical officers and civilians assigned to the wards reassured the wounded and by their calm and cheerful attitude comforted them.

No proper statistical record of the sick and wounded for this period is available. Records were maintained on all casualties admitted to Sternberg Hospital and when patients were transferred the records accompanied them to the various annexes. Due to the tremendous volume of work and shortage of personnel the records were necessarily brief. When transfer to Bataan was ordered all records were sent by boat to Corregidor. Unfortunately this ship was sunk by Japanese dive bombers and all records were lost. It is believed that approximately 2,000 military and civilian patients were admitted during the first three weeks of the War. This does not include a number of casualties admitted to civilian hospitals in Manila and to various provincial Philippine hospitals. Many were returned to duty and the balance were transferred to Bataan or evacuated to Australia. Some 800 patients from Manila were transferred to Hospitals Number 1 and Number 2 in Bataan, a few days after these hospitals were established. Late on the evening of December 31st, 1941, approximately 225 seriously injured American and Philippine patients were evacuated from Manila on the Mactan which eventually reached Australia safely. All remaining ambulant military patients were transferred to Bataan the same night.

The organization of the Manila Hospital Center was carried out against almost insurmountable difficulties. Our first project was the absorption of the Naval Hospital from Canacao. The Commanding Officer felt that the proximity of his hospital to the Cavite Naval Base placed it in great danger. On December 9, 1941, the 154 patients were transferred to Sternberg General Hospital, the majority of them being placed in Annex "B" (Estado Mayor Barracks). The medical and nursing staff were merged with the Sternberg staff and assigned to appropriate duties. A portion of medical supplies and beds from Canacao were moved to Sternberg. On December 11th the Naval Hospital Commander secured the Philippine Union Colleg at Balintawak, a suburb of Manila, about eight miles distant. In a few days when facilities were developed there he transported the above mentioned patients from Annex "B".

A brief history of each Annex will now be given and they will be considered alphabetically. Certain annexes were partially developed while others functioned actively. It is to be remembered that the administration of Sternberg Hospital was carried out simultaneously with the planning and operations necessary to develop and expand the various annexes. Hence the administrative personnel had a double burden which became more difficult to bear as the days passed. Duty hours were from eighteen to twenty hours a day.

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Annex "A." The Jai Alai building was a modern reinforced concrete building at 204 Taft Avenue. It contained dining room, bars, dance floor and a large concrete court on which Jai Alai was played. It was selected for a general surgical center and was completely equipped with supplies and some 250 beds were placed on the Jai Alai court. To augment the water supply a deep well was dug. It was planned to relieve the overtaxed surgical pavillion at Sternberg and after initial operating procedures were performed to transfer the patients to appropriate annexes. A section of this building was arranged to house the Headquarters Section of the Medical Center. Distribution of necessary equipment, beds, medical supplies, food, linen, etc., to all annexes was performed by the medical supply section of Sternberg Hospital in cooperation with the personnel of the Medical Depot. This annex did not actually function. Just as preparations were completed on December 22nd, orders were received to discontinue expansion in Manila and move medical facilities to Bataan.

Annex "B." The barracks of Estado Mayor on Arroceres Street, adjacent to Quezon Bridge, were utilized primarily for handling convalescent and venereal cases. Time was insufficient to permit extensive renovation of these barracks. Most of the buildings were old and dilapidated and were located too close to the Quezon Bridge, which was considered to be a military objective that the enemy might attack. All overflow convalescents from Sternberg, the majority of Canacao Naval Hospital group and most of the patients from Station Hospital, Fort William McKinley, were housed here. In the latter group were some 100 venereal cases. This annex was closed about December 25th and patients were transported to Bataan.

Annex "C." This annex was developed primarily to handle medical cases. It consisted of a three-story building with a center court. On December 16th, it was assigned ten Filipino doctors, twenty Filipino enlisted men, forty-two normal school girls as attendants, one matron, six American enlisted men, four Filipino civilian cooks, two Filipino civilian chauffeurs, a number of American and Filipino nurses and two surgical teams, headed by American medical officers who were assigned for duty here when not engaged in surgery at Sternberg Hospital. The first floor contained the kitchen, dining room, headquarters, pharmacy, medical supply rooms and a ward for bed-ridden cases. The second floor housed three wards for ambulatory cases and a small laboratory while the third floor housed the personnel. By December 25th some seventy-five medical cases were being cared for. On that date all equipment and supplies were removed and with the military personnel were sent to Bataan while patients were returned to Sternberg Hospital for later evacuation to Bataan.

Annex "D." Within a day or two after the outbreak of War, the entire nursing staff, permanent medical staff of four or five

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Filipino physicians, all equipment and supplies of St. Paul's Hospital in the walled city were offered to the Medical Department, U. S. Army. Due to its location near the port area, its transfer to a safer area was considered mandatory. Accordingly this hospital was moved to the Filipino Women's University where alterations were promptly made. The bed capacity was approximately 500. In addition to an Army staff of medical officers and nurses, three transient missionary physicians were assigned. This annex functioned actively as much of the overflow of Sternberg Hospital was transferred there. On December 28th, it was decided to remove all patients from Sternberg Hospital because of the repeated bombing of the nearby walled city. Moreover, as most military medical personnel had been transferred to Bataan and Corregidor by that time, it was felt that care of these casualties could be more effectively carried out by using the nursing and civilian medical group now attached to Annex "D." As a result of this transfer, the census in Annex "D" rose to about 600. After the closure of Sternberg all casualties received from the North Luzon front were now handled at Annex "D" and "E."

Annex "E." The development of this annex began about December 9th. Some 450 beds were provided and nursing and surgical staffs assigned. This unit was operating satisfactorily and had approximately 200 patients when orders were received on December 22nd for evacuation of Manila. Like all annexes it had been stocked with linen, food, drugs, medical equipment, dental and laboratory supplies. The Commanding Officer, Manila Hospital Center, now decided to relinquish this hospital to Naval Medical control. On December 26th, the 150 naval patients from the Philippine Union College at Balintawak were moved to this more favorably located and thoroughly stocked and equipped institution. The few remaining naval patients in Sternberg Hospital were transferred to this annex on December 28th. The German Sisters that operated this school were very cooperative and rendered outstanding service to our nurses in the care of the sick and wounded, during the period when this institution was under Army medical control.

Annex "F." This was essentially a non-functioning unit. The majority of medical personnel and all patients were transferred from Fort William McKinley to Annex "B" on December 13, 1941. It was decided not to use Station Hospital, Fort William McKinley, except as a last resort because of a concern of possible bombing by the enemy. As previously stated, the personnel were amalgamated with those of Sternberg General Hospital and were eventually sent to Bataan about December 25, 1941.

Annex "G." This unit was developed for medical and surgical cases. Approximately seventy-five patients were under treatment when its closure was ordered on December 22nd. The Sisters of this Convent rendered valuable assistance to our nurses and the medical

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staff. There was no significant event during the short period of its existence.

Annex "H." The development of this annex began December 15th. The building was of reinforced concrete and three stories high. Space was ample for wards, messing, operating rooms, utilities, laboratory and X-ray. Some 1,100 desks and platforms had to be removed before necessary alterations could be made. This was accomplished and some 700 beds were in place by December 20th. All construction was complete except for some plumbing. The students and faculty of this school actively participated in the labor required and gave valuable assistance to the Medical Department and Quartermaster Corps men assigned to the task. On December 21st orders were issued to suspend work on this unit. No patients were handled at this annex. Personnel were sent to Bataan about December 25th.

The rapid advance of Japanese forces, from Legaspi and Lingayon, toward Manila soon demonstrated that the concept of stabilized warfare was erroneous and that we should have no need for a Medical Center in Manila. Unfortunately it meant that only a very limited time remained to transfer our equipment and supplies to Bataan and Corregidor. On December 22nd the first cadre of Medical Corps officers, nurses and enlisted men left by truck convoy for Limay and Bataan. On December 25th the majority of the remaining military personnel were transferred by boat to Bataan to establish General Hospital Number 2. All Army nurses remaining were transferred to Corregidor December 29th. Civilian nurses attached to the Medical Center were ordered to remain in Manila. A few Medical Department officers and men remained in Manila to effect the final evacuation of patients. This was accomplished December 31st, 1941, the most serious cases being transferred to Australia on the Mactan and the balance transferred to Bataan on the Bohol.

This report would not be complete unless mention were made of the superior performance of duty by all personnel -- morale was high and cooperation and teamwork at its best. There was no complaining nor shirking. Officers, men, nurses and civilians worked at top speed, taking only the absolute minimum of rest. The personnel of the medical supply section of Sternberg Hospital and the Medical Depot, Port Area, performed magnificently in the task of supplying the Hospital Center. They labored day and night collecting and transporting beds, mattresses, linen, food, drugs, equipment and various supplies of all kinds. The Commanding Officer of the Medical Depot promptly "froze" all civilian medical supplies in Manila and then purchased and delivered to the Center great quantities which supplemented materially our own supplies. Later this same group functioned brilliantly in transporting vast quantities of materiel to Bataan and Corregidor during the period December 22nd to December 31st, 1941.

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Hospitalization on Bataan - December 22, 1941 - June 25, 1942.
Hospitalization facilities on Bataan consisted of: (1) General Hospital Number 1, Limay, Bataan (transferred to Little Baguio), km. post 169 on January 25, 1942; (2) General Hospital Number 2, Cabcabin, km. post 162.5; (3) Philippine Army General Hospital, Base Camp, km. post 171. This report does not deal with hospitalization in clearing companies in forward divisional areas which was necessary on a very large scale during the later part of the campaign.

General Hospital Number 1 - December 23, 1941 to June 29, 1942. General Hospital Number 1 was organized per verbal orders of the Commanding General, U. S. Army Forces in the Far East, on December 23rd, 1941. On this date the hospital was opened at Camp Limay, Bataan. The greater part of the equipment and supplies for a 1000 bed general hospital had been stored at this camp some months previously in accordance with War plans. Additional supplies, including some food stores, were trucked from the Station Hospital, Fort William McKinley, and the disbanding Manila Hospital Center by personnel of Hospital Number 1 between December 23, 1941 and January 1st, 1942, when Manila fell to the Japanese.

The buildings at Camp Limay consisted of sixteen wooden buildings with roofs of nipa, measuring approximately twenty-five by seventy-five feet in size, fifteen of which were used as wards and one as an officers' quarters. There were six buildings of the same construction, measuring approximately eighteen by twenty-seven feet in size, which served to house the Department Surgeon's Branch Office, Hospital Headquarters, minor surgery, dental clinic, laboratory, receiving office and pharmacy, Quartermaster's Office and Registrar's Office. One large building about twice the size of the ward buildings was used as a nurses' quarters at one end and the officers' mess at the other. One large building was used as the main operating pavillion. There were ten buildings, varying in size, which were used as mess halls, bakery, latrines and general laundry. There were four large galvanized iron buildings, measuring approximately eighty by one hundred feet, that were used as convalescent ward, medical supply, storage warehouse, and drying room for the hospital laundry.

The camp water supply was pumped from a deep artesian well into a settling reservoir and then into a large water tower of about five thousand gallons capacity. All water used in the camp was chlorinated before placing in coolers for use. The entire camp was wired for electricity, which was furnished by the hospital's own 50 Kilowatt generator driven by Diesel motor.

The camp was well laid out and was generally located just east of the Barrio of Limay on a fairly level area, bordered on the East by Manila Bay, on the West by the main highway to Manila, on the North by the Limay River and on the South by a large farm.

The greater part of the personnel of General Hospital Number 1 arrived at Camp Limay from the Manila Hospital Center and Station Hospitals at Fort William McKinley and Fort Stotsenburg on December 23, 1941. This was supplemented by a few more officers, nurses and enlisted men who arrived in the next few days.

During the first week, most of the time was spent breaking out equipment and supplies and in organizing the hospital. However, the hospital was ready to receive patients on the 25th and did receive eight patients, two of which were operated on the 25th, and some bombing casualties on the 26th and 27th. On the 28th, the first front-line casualties, 212 were received.

Although the hospital was organized as a 1,000-bed general hospital and functioned as such, its chief function while at Camp Limay was as a surgical hospital, there being very few medical cases admitted. The surgery of the hospital was well equipped and had eight operating tables and one orthopedic table which were manned day and night when necessary by twelve operating teams, consisting of surgeons, nurses and corpsmen who worked together as a team. From December 26, 1941, until January 25, 1942, when the hospital moved to Little Baguio, more than 1,200 battle casualties requiring major surgery were treated at General Hospital Number 1. On January 16, 1942, 182 major surgical operations were performed in twenty-four hours.

Since the capacity of the hospital was only 1,000 beds, it was necessary to transfer many cases after a few days hospitalization to General Hospital Number 2, located near Cabcaben, Bataan. The evacuation was very ably handled by personnel attached to General Hospital Number 1.

During the entire period, General Hospital Number 1 was located at Camp Limay, enemy planes flew over the hospital nearly every hour of the day. However, the hospital was not bombed or its work interfered with in any way. This was probably due to the fact that the hospital was so well marked. Three of the black roofs of the large warehouses were painted with large white crosses. On the East, South and West side of the hospital were three large red crosses, approximately forty-five feet in diameter, made of sheets and red cloth. On January 3, 1942, the Barrio of Limay was bombed about 100 yards from the hospital and scattered shrapnel did fall into the hospital. There were no casualties or property damage within the hospital area itself. About the middle of January 1942, it became apparent from the tactical situation that the hospital must be moved further to the rear or come under enemy artillery fire. A new site for the hospital was selected at Little Baguio where the buildings of an Engineer camp existed. On January 23rd, a contingent

of officers, nurses and men were transferred to Little Baguio to open up the new hospital. On January 25th, the remaining personnel and equipment were moved. All of the patients, numbering 750, were transferred From General Hospital Number 1 to General Hospital Number 2, on the 23rd, 24th and 25th of January.

The hospital at Little Baguio was located in the semi-permanent camp site used by the 14th Engineers (PS) before the War. There were three large wooden buildings, roofed with galvanized iron, one of which was used as an officers' quarters, one was used as a nurses' quarters and officers' mess, and one was used as the main operating pavilion. One smaller building was used as hospital headquarters. There were two large open garages, measuring approximately thirty by 120 feet in size, and running parallel to each other about fifty feet apart. These were made into six wards. There were three galvanized iron warehouses of different sizes, one of which was used for medical supplies, one as detachment mess hall and one as the laboratory and pharmacy. One smaller garage was used as a patients' mess and one semi-permanent galvanized iron and bamboo building was used as a barracks for the detachment, Medical Department. As the influx of casualties increased, the hospital was expanded by additional construction. Initially it was provided with 250 beds. Later one large ward with triple decker bunks to accommodate 750 patients was constructed to the rear of the nurses' quarters. The open space between the two garages was covered and by using triple decker bunks, 450 more patients could be housed. A prisoner ward for Japanese prisoners was constructed and at the time of the capitulation there were thirty-four in this ward. By the first of April the hospital was able to care for approximately 2,500 patients and on the morning of April 7, 1942, there were 1,840 actually in the hospital and about 450 awaiting admission. The latter were mainly cases of malaria and dysentery that had just arrived from clearing stations.

On March 30, 1942, at 10:17 AM, the hospital was bombed by two-motored bombers of the Japanese Army which had been engaged in the past five days in heavy area bombing in the Communications Zone. Both incendiary and demolition bombs were used, several striking directly in the hospital area. As a result of this bombing there were twenty-three killed and seventy-eight injured -- of these, ten were Medical Department personnel. The officers' quarters, officers' mess, hospital headquarters and main operating room were struck by many fragments. On April 7, 1942, at 10:15 AM the hospital was again bombed. This raid seemed to be intentional and directed against the hospital. At least ten bombs, weighing 500 pounds each, fell in the hospital grounds. There were seventy-three killed and 117 injured; sixteen of the latter died within forty-eight hours. Property damage was very heavy. Ward 5 was completely demolished.

The roofs of the main wards were all warped and out of place. In fact, most of the buildings were warped and out of line, or riddled with shrapnel. On the whole the function of the hospital was completely disrupted. On April 9th, the hospital was captured by the Japanese Army.

After capitulation, hospital personnel and patients remained in the same location and during the following month repaired and rebuilt the hospital. On May 11th, about 600 patients were transferred from General Hospital Number 2 to Hospital Number 1 and the Medical Department personnel of that hospital bivouacked in the nearby Ordnance Department area just north of the hospital to await transportation to the Prisoner of War Camp at Cabanatuan. On June the 29th, Hospital Number 1 was transferred to Camp O'Donnell to establish a prison hospital for the Filipino prisoners of war held in captivity at that camp.

The personnel of the hospital varied somewhat according to the hospital census. In January there were thirty-three officers of the Medical Department, twenty-nine American nurses and twenty-one Filipino nurses. There were approximately 250 men in the Medical Detachment.

General Hospital Number 2. A cadre of Medical Department officers, nurses and enlisted men departed from Sternberg General Hospital, Manila, December 25, 1941, for Bataan by boat to establish a hospital. They arrived at Lemao, Bataan, the afternoon of December 26th, having first docked at Corregidor without debarking. At Lemao they were subjected to Japanese aerial attacks, but fortunately no casualties were sustained. The first night was spent at km. post 142.5, "E" Road, with a clearing company of the 12th Medical Regiment. On December 28, 1941, the group was transported to km. post 162.5, "E" Road, to the Medical Supply Depot. On this date development of the hospital area began.

The site of the hospital had been selected originally by the Department Surgeon who had made a reconnaissance of this area several months previously. The location selected was along the south bank of the Real River and the initial development began at km. post 162.5. This placed the hospital about two kilometers west of Cabcaben and about the same distance from the Cabcaben Airfield. The valley of the River was narrow but sufficient space existed along the River for approximately one mile. The area was virgin, unoccupied and undeveloped. The soil was a sandy loam and drained well. A fine growth of tall trees, bushes, creepers and bamboo clumps afforded cover from aerial view. There were no roads but a few foot paths and carabao trails crossed the area.

On December 28th, a location was selected for one mess, one ward, operating room and headquarters. Unfortunately there was nothing to work with, not even as much as a hammer or saw. There

was no transportation, no messing facilities for the personnel and no food. There were no roads into the area and no utility service of any kind. The three most important tasks at hand were first, to construct a road into the hospital area; second, to secure tools and transportation; and third to establish a mess.

The Engineers were contacted and they came at once. On December 29th, grading of the road began. One bulldozer accomplished the task of preparing the road in two days. By December 30th, ambulances could bring patients to the hospital with ease over the one-way road. The weather was excellent. If it had rained the road would have been impassable. The hospital mess opened for operation on December 29th, with equipment borrowed from the Philippine Medical Depot. Food was loaned to it by the Medical Depot. Throughout the operation of the hospital only two meals per day were served. Breakfast was served at 8:30 AM and dinner at 4:30 PM. This was due to inadequate supplies, mess equipment and personnel. Doctors and enlisted men were assigned the actual tasks of labor necessary to establish the utilities and wards. At this time and throughout the period when the hospital was in existence extremely valuable aid and assistance was received from a Filipino who was the leader of a nearby community and a farmer by occupation. He was a rare judge of humanity and all the other Filipinos accepted him as their leader. He was able to supply extra help for any type of skilled or unskilled labor needed. He always secured what was wanted. If a man did not work he promptly fired him. He rarely discharged a woman because he stated that they worked harder, had more endurance and were more dependable than the Filipino men. This man suffered great personal losses during the War.

To secure additional supplies, the medical supply officer made a trip to Manila and collected four truck loads of supplies which were largely surgical. He immediately returned to Manila on December 29th, securing additional supplies, medicine, tools and food. On December 28th, a Dental officer, accompanied by five drivers, went to Manila and returned with three additional trucks loaded with subsistence supplies. On December 29th, a Medical officer went to Stotsenburg on a trip that involved considerable danger to himself. He returned with a field sterilizer which proved to be invaluable and was the only practicable type for such a hospital as was developed. If he had delayed one day it is probable that the Japanese would have captured him. The movement of supplies by truck was impeded by the marked congestion of the only road which existed leading into Bataan from Manila. The main body of the Fil-American forces was moving into position in Bataan and the road was congested with traffic; in addition, Japanese aerial activity constantly threatened the safety of those engaged in the task.

The first ward was opened on January 1st. A few civilian bomb casualties were received on that date. At this time there was no graves registration service but it was soon established.

On January 3rd, 1942, the first major operation was performed on an officer who had a shrapnel wound of the left chest and abdomen with a laceration of the liver. This patient recovered. The fact that within six days' time, this small group of doctors, nurses and enlisted men had cut a hospital from the jungles so that major surgery could be performed, indicated that everyone was working. On December 28th, 1941, an area had been designated as General Hospital Number 2 and by January 5th roads had been built, mess opened up, and supplies and transportation established, a light plant put in operation, a ward opened up, operating room opened up and a major operation successfully performed. Headquarters and quarters for all personnel had been established. On December 28th, there was not an aspirin, saw or axe but January 5th, 1942, a hospital was in operation capable of doing anything except certain laboratory work. From this time on it was a question of expansion and improvement. Some new installations were made but the main problem was that of growth for the ever-increasing load of patients. This hospital group had but one thing in mind and that objective was that whenever a patient or patients, without regard to number, were to be admitted there must be a bed for him, something to eat, and professional attention available. To this end all worked and since it was never known how many patients were to be received it was endeavored to keep on hand a few hundred beds. At no time was there a shortage except on the morning of capitulation, when during the night between 1,500 and 2,000 patients were received. There were not enough beds to go around but professional attention and some nourishment were available.

The Engineer Corps provided a water purification plant. To place it at a convenient central location it was necessary to divert about half the River through a new channel. A dam of large loose stones and brush was constructed which provided the hospital with more than enough water for all our needs. By the diversion of the water an island was formed and on this the nurses were quartered. On December 30th, the plant was put in operation. It was a high pressure, chlorination type with 4,000 gallon capacity. It supplied all the water needed for drinking purposes for the hospital and worked perfectly. The water was hauled in a truck to all the wards and emptied into litter bags, the hauling requiring the services of a three-man crew, working at least sixteen hours a day.

The first operating room was located near the center of the area near the road. It consisted of a hospital ward tent on a frame four feet high on the sides. The floor was made of split bamboo. There was no available lumber for flooring. With Filipino aid an excellent job of splitting the bamboo was done so the floor was

reasonably smooth and easy to wash. However, the heavy operating room furniture was too much for it and there was considerable wavering and some breaking of the strips. This floor was replaced by a good wooden floor about a month later. The surgical tents were occupied and began functioning on January 2d. A light plant had been installed on December 30th and the surgical tent wired and camouflaged so surgery could be performed at night. The inadequacy of this tent could be seen by the time it was started. Only about two operating tables could be installed in it. So a second pavilion was started on January 2d. It was better planned having six feet high walls, a substantial floor and covered with black paper. This would accommodate four operating tables and was a great improvement over the first one which was converted into a dental clinic. It was completed about January 10th. These surgical tents were constructed as rapidly as possible as an emergency project. When conditions warranted and material could be secured a surgical setup was constructed in a new location. The first location was selected because it was accessible for incoming vehicles but as the hospital developed this location proved to be too accessible. There was much traffic, dust and noise. The third location was selected near the west end of the hospital area beneath several large trees which gave perfect concealment. It was off the road and only operating room traffic was allowed. This pavilion was twenty by sixty feet with galvanized roof and covered with black paper. The windows had black-out paper shutters for night work. There was room for eight operating tables, four of which were being used a great part of the time. There were ample lights and an abundance of surgical instruments and supplies. A store room was attached to one end and a dark room for X-ray development at the other. A large field sterilizer on the outside was highly efficient and supplied all the necessary sterilization except for a medium sized electrical sterilizer in the operating room. A portable X-ray with its own power plant was located just outside the operating room. Three large wards were near the operating room, accommodating more than 600 patients. The operating room personnel were quartered just across the River from the operation room. This surgical setup was ample and complete and served the hospital well. The location was ideal and in order to make it available a 100 yard road and a heavy duty bridge had to be constructed. There were five complete operating teams and much splendid work was done here. During the latter part of February and most of March not a great many new cases were received and this period was used for corrective operative procedure as re-amputations and removal of foreign bodies. This operating setup was about 1,200 yards from the hospital headquarters and the original surgical tents. A small tent fifty yards from the main operating room pavilion was completely equipped for operating on gas gangrene cases and they were largely treated by muscle incision and antitoxin. There were but two deaths reported from this cause. A large tent covered by a large Quartermaster Corps tarpaulin was erected for the care of these

patients and it separated them from other patients. There was never more than six such cases in the hospital at one time. This was evidently due to extensive careful debirdement of wounds as early as possible and packing same with sulfa powder or vaseline. The death rate was low. While no specific statistical data are available, it is known that there was a total of only 303 deaths from all causes among more than 15,000 admissions to the hospital.

The dental laboratory occupied the original surgery and was prepared to do any type of dental work. A considerable amount of maxillo-facial surgery was accomplished by this group.

Upon arrival in Bataan there were no supplies. However, the Philippine Medical Depot had moved to Bataan prior to the arrival of the hospital group. This organization had a large quantity of supplies and it gave the hospital wholehearted support and untiring efforts to supply us. To this organization and its Commanding Officer, the hospital gives credit and praise for their efforts. While its stock was large the hospital requirements proved, in many instances, to be larger and many articles were needed which the Depot did not have so that many supplies had to be obtained elsewhere, largely through the Depot, but in some instances independently. The initial subsistence was provided by the Depot. As previously stated, trucks from the Depot on December 28th went to Manila and more food was obtained. Other subsistence was picked up at various food dumps until an issue Quartermaster dump was established and after January 6th, all subsistence was obtained from this source, except bread which was obtained from the Quartermaster bakery at km. post 164 until the supply of flour was exhausted; and carabao meat which was obtained from the Veterinary slaughterhouse near Lاما. Much of the operating room supply and surgical equipment was brought from Manila on December 28th and 30th, as well as the supply of utilities. Many carpenter tools also were brought. From the Medical Depot was obtained 7,000 blankets and an equal number of sheets, 3,500 beds and mattresses, pajamas, pillows, medicine, etc., in quantities great enough for needs generally. However, a few items were more difficult to secure; for example, lister bags were a rare item and it was necessary that each ward have one. There seemed to be none available. The hospital had two or three -- the Depot and Quartermaster Corps had none. Two or three were found at Cabcaben. The Navy provided six or eight; a few more were obtained from Corregidor, so that by the time a ward was opened there generally was a lister bag available. Another item there was difficulty in securing was stoves for cooking. The messes were of necessity very large so that equipment had to be of such type as would turn out a large volume of food. The new type gasoline field range was found to be inadequate. Finally for five messes there were eight stoves including three old type field ranges. This was supplemented by various devices such as oil drums, galvanized iron cans, which also were

very scarce, etc. The hotel type ranges were obtained from Corregidor -- many more could have been used.

Hospital furniture proved to be a problem. Eight electric refrigerators were received. There were about thirty Quartermaster Corps and Medical Department mess and serving tables. There was no other furniture. There was, however, a large grove of bamboo around the hospital area and Filipino workers were able to make almost anything that was needed. Some lumber was obtained and many things constructed from it, but bamboo was the mainstay for furniture. Some of the equipment made from bamboo included mess and dining tables, medicine cabinets and nurses' desks, beds, desk trays, brooms, fly swatters, laundry baskets, waste baskets, serving spoons, urinal troughs, storage cabinets, benches, linen closets, ward offices, floor mats, etc. Beds made of bamboo and mattress covers filled with rice straw are surprisingly comfortable. In the beginning various articles of bamboo were made indiscriminately all over the hospital area but later on an area was set aside as a furniture shop and all articles were made here and distributed throughout the hospital. Filipinos specially qualified for furniture construction were assigned to the job. At a later date considerable second-hand furniture was purchased for our use from Cabceben. Included in this were a sewing machine, messware, chairs, desks, cabinets, mirrors and a bicycle. Much of this furniture was not used because it was in need of repair. Two of the sewing machines were in constant use in repairing linens and operating room supplies.

The lighting system for the hospital at first was the 10 kilowatt generator which was installed near the operating tent. Later a 50 kilowatt generator was installed and proved very satisfactory. It supplied power for the ice boxes, lights for operating rooms and power for a medium sized sterilizer, lights for headquarters and dental clinic tent and two radios. Two radios were used only when the power was on to hear the Voice of Freedom at 12:30 PM and KGEI at 8:00 PM daily.

The first mess opened for breakfast, December 29th, 1941. At this time there were no patients and all personnel ate at this mess. The organization at first was poor and so was the service. However, this smoothed out rather rapidly and by January 1st was going very well. However, there was one factor connected with the messing which was never corrected as long as we were in Bataan. The hospital was trying to remain camouflaged and when 300 to 400 people line up for mess it is difficult to conceal them. When this number increased to 1,000 or more concealment was about impossible and we always feared strafing by the enemy. Since no fires were allowed at night, the line-up for all meals was of necessity in the daylight. Fortunately the mess line was never strafed.

Mess No. 1 soon became overcrowded and Mess No. 2 was opened on January 5th. The duty and patient officers and nurses were served at this Mess, it being located between the hospital headquarters and the officers' ward. The detachment continued to eat in Mess No. 1 all during the War. Generally Mess No. 2 was too crowded and Mess No. 3 was opened in the upper area of the camp. On January 27th, Mess No. 4 was opened, this mess being utilized to serve the duty officers and nurses, which up to this time had messed with the patients.

Messing equipment was one type of supply that there never was enough of. When it became evident that a new mess would need to be opened, equipment was secured with difficulty, generally coming from Corregidor. As a rule, when a mess opened the messes already established were robbed of part of their equipment, most of which was never replaced. There was also a shortage of Mess Sergeants and cooks. Mess No. 3 was rather typical of the messes. It had for a Mess Sergeant a Private who was a trained X-ray technician at Sternberg and a good soldier. He had some experience as a cook and had executive ability. He was made Mess Sergeant because no one seemed better qualified to do it. The equipment for cooking was one large and one small hotel type range, supplemented by two oil drums for cooking rice. He had approximately twenty-five men helping him. This mess fed as many as 2,000 patients twice daily. The line-up for this mess resembled a regimental payday assembly. The dining area of this mess, like all others, was bamboo benches or wooden benches beneath the trees. This constituted no particular discomfort. There was one Mess Officer for all of the various messes. Food for bed patients was carried to the wards and served by the nurses.

In March many patients were being admitted that showed evidence of food deficiency diseases. Beginning about March 2nd, $1\frac{1}{2}$ rations was provided for each patient. Food consisted of an inferior grade of rice, supplemented with carabao, horse and mule meat. Some bread was available until about the middle of March. There was no butter and fresh vegetables were unavailable. A few mongo and garbanzo beans were received from Cebu in March. On a few occasions canned fruit was served. Some weevily cracked wheat and oatmeal was available during March. For part of the time small amounts of diluted canned milk and sugar were served. Coffee or tea supplies soon were consumed. Occasionally canned salmon and sardines were issued from the Quartermaster dump. Special diets including soups, fruit juices and milk were prepared for the seriously ill. With the increased ration and the assistance of the dietician the food situation on the whole was improved during March as compared with February, but the ration was monotonous and unpalatable. After April 9th, our fruit juices, canned milk and meat were no more. The diet from April 9th to May 13th was largely rice and by this time

there were many cases of leg and facial edema and the diagnosis of deficiency diseases was commonly made.

Mess No. 5 in ward 19 deserved special mention. By February 15th, it was evident that there would be a large number of permanently disabled patients. A special ward was developed for this group. Bamboo beds, seven by fourteen feet, were built in rows up and down the hillside after the brush had been cleared. They accommodated seven or eight Filipinos. 167 of these beds provided space for 1,000 disabled patients. All personnel in this mess were detailed from the patient group and were Filipino Scouts. They cooperated splendidly and constantly maintained the most efficient ward in the hospital. The equipment supplied them was little more than an ice box, a large stove, hotel type, and one blanket for each man and several oil drums.

A description of some of the various installations and equipment is necessary to get a clear picture of the hospital and its problems. From the beginning it was the intention of the hospital administration to camouflage the hospital. As was previously stated, the hospital area was covered with bamboo, vines and trees. This enabled everything to be put under cover except the roads and many paths that were soon made within the area. Within a fortnight the open areas were crisscrossed in every direction with paths that showed plainly from the air. Later it was learned that all of the Bataan flatlands were marked much in the same manner as in the hospital. The hospital area was checked from the air by American pilots and nothing was found visible except roads and paths. It was believed that the Japanese would respect the hospital, so camouflage became less important. In the middle of January 1942, a large white cross was placed in the field at the East end of the hospital area. At a later date a new one was constructed of metal to the South and a third one of sheets and was located to the West. These crosses were plainly visible from the air and they were kept in good condition at all times. The enemy did not bomb dangerously close to the hospital at any time, although many Army installations were located closer to the hospital than was desirous and bombing of these areas was very unpleasant and disconcerting to the hospital staff and patients. With the display of crosses, the attempt to camouflage did not cease.

The wards were without buildings. A convenient and suitable area was selected, the underbrush was cut away being careful not to destroy the vines and brush which afforded cover. But it was difficult to prevent considerable destruction of protective creepers and vines. This underbrush was very heavy, tough and resistant to the efforts of man to remove it but it did yield to the constant attacks of Filipinos and their bolos. The size of a ward was generally limited by the amount of terrain and cover. An area was selected that would usually accommodate about 200 patients but there was considerable variation,

some being as small as 100 and some containing 700 beds. On April 7th, fourteen wards had an average of 200 patients, one had 300, one 500, and one with 100 beds. They were really hospitals within a hospital group and each ward would contain a variety of patients, several having more patients than Sternberg had before the War. This unusual condition resulted from the fact that we were putting up beds for men who were already sick or wounded and who were being treated in front line installations until bed space could be provided in the rear area. The average ward contained a medicine cabinet, a ward office, a storage place, a lister bag, a dressing tent and from one to four tents for patients. The patient tents were for the more serious cases. There was a total of nineteen wards with No. 13 omitted. The ward personnel was from one to three doctors, two to four nurses and two to four enlisted men. In the latter days two civilians were assigned to each ward so that from three to eleven ward personnel were caring for from 200 to 700 sick and wounded.

The number of patients increased rapidly and it was necessary to open up new wards to accommodate them. By January 1st, three wards were prepared for occupancy. There were 177 patients including the 152 from Sternberg which arrived that date. On January 17th, there were ten wards ready with a capacity of about 1,500 patients. At this time there were 1,000 patients occupying part of seven wards. On January 25th, there were 2,160 patients in the hospital with fourteen wards occupied and on February 5th, 2,411 patients. On about January 20th, the construction crew began to feel that they were far enough ahead with beds to have a safe margin. There were probably about 500 beds unoccupied. A period for a much needed relaxation seemed to be in the offing, but to the great surprise and disappointment of all, just after dinner on January 23rd, while enjoying the cool of the day, word was received that all patients from Hospital Number 1 would be sent to us during the night. The evacuation of Hospital Number 1 had become mandatory as the Fil-American main line of resistance was being withdrawn to the Bagac-Orion line and this placed Limay within the range of Japanese artillery. A score of privates worked all night long and managed to keep abreast of the incoming patients but the next day there were few empty beds and 682 patients had been received in the last twenty-four hours.

Originally, patients were received at the surgical tent where an arrangement was prepared for the temporary housing of them. Here they were examined and those who did not need surgery were transferred to the various wards. This plan was cumbersome but worked very well when there were twenty-five to fifty patients daily but when patients were admitted in larger numbers this system was more than cumbersome. In addition it created too much confusion, activity, noise and dust in the operating area. It was decided to move the operating and receiving activities to new and more appropriate locations. The surgical arrangement has been described previously.

It was decided to open a receiving ward at a site selected near the road entry to the hospital. The site was convenient and well covered. This was opened on January 25th. The ward had 150 cots. It also had a receiving station which was equipped to do minor surgery and dressing. It was lighted for night work, equipped with an ice box and served hot drinks. Most of the patients were received at night and those who did not need immediate surgery were kept in the receiving ward during the night and then sent to the proper wards in the morning. The receiving officer was kept advised of the number of empty beds in each ward and therefore knew which wards to send the patients to. Patients who required immediate surgery were sent to the operating area where both waiting and operating facilities were available. During the day the receiving ward was cleared of all patients and ready for the reception of more patients at night. On some days it was cleared from two to four times.

A new one-way road was constructed into the receiving ward and it was well marked with signs and arrows but it was not possible to keep forbidden traffic out of the area so a guard was posted. In addition to the two Medical officers, two or three nurses and five enlisted men were assigned here. This receiving ward operated in a highly efficient manner from its inception. Its location on the opposite side of the hospital from the operating room permitted the operating room to escape all the noise and crowding which is an undesirable but necessary part of a receiving ward of this size.

The hospital motor pool was located on the main hospital road in the general vicinity of the receiving ward. Vehicles were hidden from aerial view under trees and bamboo clumps. The vehicles consisted of two passenger cars, three trucks used for hauling supplies, several ambulances, a huge gasoline truck which was used for a road sprinkler and a few nondescript vehicles. A permanent staff of chauffeurs and mechanics were constantly on duty. Gasoline, oil and grease were secured through the medical depot from the main Quartermaster Motor Pool. Extensive repairs on the vehicles were effected at the latter place. Immediately upon our capture by the Japanese Army, all vehicles, equipment, oil and gasoline were commandeered by the Japanese Army. During the last month of the campaign our gasoline allowance had been reduced to fifteen gallons daily for the use of all vehicles, including the amount necessary for the operation of the generator and water purification unit. Although strict economy was enforced, this amount was insufficient. Fortunately a reserve of several hundred gallons had been set aside when the hospital was first organized and this was sufficient to tide us over the period when the issues were inadequate. A portion of this gasoline was hidden from the Japanese and it later was used in transferring our bed cases to General Hospital Number 1 at Little Baguio.

The records department of the hospital grew out of a state of confusion into an orderly institution. This office, like the receiving office, was transferred from the original operating tent area to a site adjacent to the receiving ward and on the same date. Here were assigned a staff of typists. The location of the Registrar's office was correct since it obtained the records as the patients were admitted and in a short time the office was organized and the records in good order. The fact that these fine records were lost does not, in any way, detract from the excellent work performed by the staff.

When patients were received they were divested of all government property and given hospital clothing. This was in accordance with instructions from higher authority and caused a few arguments, especially in the early part of the War. Many patients were loath to give up their equipment. All this equipment was collected and daily turned over to the Quartermaster or Ordnance Officer. When patients were discharged they were taken to the Casual Center where they were equipped again and taken to their respective organization. The Casual Center would return our hospital convalescent clothes to us. The establishment of a Casual Center facilitated the disposition of those marked duty.

From about February 15th to the 10th of March, the hospital population remained fairly constant. This period provided an opportunity to improve the area and to settle personnel in some degree of comfort. Up to February 1st, no one had an opportunity to take the leaves from around his bunk or adjust his living conditions. Personal comfort and needs had been entirely ignored for the simple reason that there was no opportunity to indulge in such trivialities. All personnel slept in beds beneath the trees with their scant personal belongings placed beneath or hung on trees nearby. This was no hardship. During this time several people provided themselves with some type of chair. Beds were made more comfortable. Electric wires were put up to the officers' and nurses' area for radio installations and some officers improved the cover over their beds.

A need for some way to wash hospital linen developed almost immediately. With the large number of operations and dressings which soiled bed linen, a large amount of soiled linen, convalescent clothes, clothes and towels accumulated almost overnight. There were two wives of Marine enlisted men who had been sent to the hospital from Corregidor and they, seeing the need for laundry service, volunteered their services for this purpose. This was the beginning of the hospital laundry. They offered to work without pay and for a few days they were the hospital's sole dependence for clean laundry except for a few articles which the operating room personnel found time to wash. In the meantime laundry needs became pressing.

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Twelve Chinese from Corregidor reported to the hospital on January 9th and volunteered to do any kind of work without compensation. Immediately they were employed to do laundry. An area one-half kilometer below the hospital was selected. Several oil drums were installed for boiling, brush was cleared away beneath good cover, and several hundred feet of wire strung up for clothes lines and the laundry began. Those men turned out a large amount of laundry daily and it dried rapidly.

On January 24th there were forty-three officers, including two Chaplains, seven Dental officers, four MAC officers, one Infantry officer and one Red Cross worker and there were 1,205 patients at the hospital. From time to time officers were assigned to the hospital. In addition there were about eighteen Filipino Army Medical Officers assigned to Hospital Number 2. On April 6th, 1942, there were approximately forty-seven American and twenty Filipino officers. The Surgeon's morning report on April 7th showed 5,129 patients. The original twenty nurses were augmented from time to time by American Army, civilian and Filipino nurses so that on April 6th there were approximately fifty-thrce American and thirty Filipino nurses. The original medical detachment was increased from time to time and later included members of the Philippine Scouts and the Philippine Army. Approximately 250 enlisted men were on duty. The civilian employees (Filipinos) began working on December 29th and continued until April 9th, 1942. As many as 200 were employed at a time. Their foreman has previously been referred to. Their work consisted of laundry work, kitchen police, clearing brush, building furniture, making roads, paths and bridges and ward work. One seamstress was employed in the operating room and there were several barbers. The Filipinos were at first employed from the population of the Barrio. Later a refugee camp was established near the hospital. It was called the Hospital Work Camp and rations were drawn for this group by the hospital administration. Some 840 people lived in this camp. There were no disorders in this camp and it was a considerable help in enabling the hospital to function.

Picture, if you can, a hospital of from 3,000 to 5,000 patients with a maximum of sixty-seven officers, eighty-three nurses, 250 enlisted men and 200 civilian employees and it will be readily understood that many problems were involved. This personnel performed practically all the hospital functions, including professional and administrative, including medical supply, securing of rations and fuel, laundries, messing, road and bridge building, hospital and furniture construction and all hospital utilities. Of the 600 people employed in the hospital 280 Filipinos were employed in construction and laundry work, functions that a hospital is not ordinarily concerned with, requiring more than 25% of the hospital employees. Fuel for the messes and laundries was obtained locally. None was provided for the hospital. Wood and charcoal were used. Charcoal was more satisfactory

and was used for the hospital. It was obtained about one and one-half kilometers away and hauled in from forty to sixty sacks at a time. It produced much heat and made little smoke that could be observed by the enemy. Sufficient charcoal could not be obtained and was supplemented by wood. Considerable dead bamboo was in the hospital area and all of this was used. It could not be used alone because it created too much smoke and was shortlived, so our main fuel supply was wood which was cut some distance from the hospital and hauled in by truck. Trees within the hospital area could not be used for this purpose because of the destruction of shade and cover. A constant wood detail was kept busy. After the capitulation we were confined to the hospital area and had to use whatever was available for fuel, as lumber, furniture, etc.

The sanitation of Hospital Number 2 was a serious problem. When 4,000 to 8,000 people live in one small community in which there is no sewer system, a problem is encountered which is very difficult, especially when you are dealing with people, many of whom have no personal or general interest or knowledge of sanitation as applied to groups. As previously stated, the original sanitary installation was the open pit latrine which is everything except a sanitary device. The soil was that of a sandy loam and naturally would be well suited for latrine drainage but here the water level was high and when the latrines were over four feet deep, water came in. There was, in the beginning, nothing to spray them with so that the only means of treatment was by throwing in leaves and burning them which was quite unsatisfactory. Soon flies became numerous. Beginning in February, the open pit began to be replaced by a box latrine provided by the Engineers. On March 2nd, an officer was transferred to the hospital and made sanitary officer with no other duties. The improvement which he brought about was almost magical. Very shortly the fly problem was under control. The open latrines were all covered with boxes provided by the Engineers or constructed in the hospital and diarrhea among the hospital personnel reduced from a moderately high rate to almost nothing. This satisfactory condition prevailed until after capitulation when circumstances beyond our control again appeared, resulting in the appearance of many flies which persisted until the hospital was abandoned.

A Graves Registration Officer reported to the hospital for duty on January 2nd, 1942, and a cemetery was established on the hill southeast of the hospital. Other officers joined him later on. This service moved to their own location in early March. The cemetery was well planned and beautified and, at the time of the capitulation, in excellent shape but during the Corregidor phase the cemetery was struck with some shells and extreme damage was done. After the capitulation of Bataan the original cemetery was out of bounds for the hospital and there was no Graves Registration Service. A new cemetery was established within the hospital and seventy-two people were buried in this area. It was well marked and was in good condition on May 13th, 1942.

Religious services were under the direction of Protestant and Catholic chaplains. A cleared space with bamboo benches served for the Protestant services. This was located on the south side of the hospital road in line with the rear medical supply tent. As the patients (Filipino) were predominantly Catholic, a much larger chapel was constructed by the Catholic Chaplain. It was located to the south of the main hospital road between wards 5 and 7. Using patient labor, a large area was cleared and surrounded by a bamboo fence. A small bamboo chapel was constructed for special religious use. Adjacent to it was a raised platform and altar. Services were rendered daily and were well attended. On two occasions programs were held in the area consisting of songs, recitations, dances, etc. Patient personnel and Filipinos from the nearby refugee camp actively participated and these programs and religious services added considerably to the morale of the group. Chaplains visited wards daily comforting patients and administering the last rites when indicated.

The Red Cross maintained an office just off the north side of the main hospital road near ward 8. Although their facilities for aid to the sick were extremely limited, they worked hard in securing and distributing comfort articles to the patients. A news sheet was published which was received with great interest by the patients. Regular programs were held when practicable.

For the first time in our history, during the War in Bataan, women nurses were utilized so near the front lines. Hospital Number 1 was seven kilometers from the front lines. Nurses were on duty at this hospital until January 23rd when the hospital was evacuated. Hospital Number 2 was twenty-four kilometers from the front line. However, Hospital Number 2 was only two kilometers from Cabcaben and Cabcaben Airfield and four kilometers from Bataan Airfield, all enemy objectives so that Hospital Number 2 witnessed numerous bombings and some dogfights. Enemy planes bombing Corregidor were clearly visible from Hospital Number 2 as well as the Antiaircraft fire from Corregidor, so Hospital Number 2 was very close to the front lines and other enemy objectives.

Under the guidance of the Chief Nurse, the nurses at Hospital Number 2 did excellent and heroic work during the Battle of Bataan. In general their morale was on a par with the officers', their bravery was exemplary and an expression of fear was rarely manifested. There was notable harmony among the group. The Filipino nurses also performed their duties in a highly satisfactory manner. The comfort of the nurses was similar to that of the officers, but there were no complaints. When on April 8th, 1942, the end of Bataan was obviously near at hand and it was decided by higher authority to transfer the nurses to Corregidor, they went with considerable reluctance. The Chief Nurse expressed a very strong desire to remain at her post of duty and expressed her intentions to do so

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as long as any other nurse was left on Bataan. They all left together about 9:00 PM on April 8th, arriving at Corregidor on the afternoon of April 9th, after a harassing experience. Barring the necessary prolonged trip due to congestion of traffic and demolition of the Ordnance Warehouses, no untoward incidents occurred en route and all of them arrived safely at Corregidor. There were several cases of dysentery and malaria among the nurses and two of them were injured when bombs struck Hospital Number 1. There were no injuries at Hospital Number 2 among the nurses, although several slugs of shrapnel fell in their quarters.

During March the hospital census rose to 3,000 daily. The incidence of malaria throughout the command had increased to an alarming degree. Personnel of the hospital were developing clinical malaria although all were regularly taking quinine prophylaxis. Unfortunately the hospital area in the Real Valley was located in a region where malaria was endemic. It was believed in these cases that the inadequate diet with repeated attacks of diarrhea, chronic exhaustion and nerve strain were combining to lower the resistance of individuals so that clinical malaria became evident even though individuals were taking ten to fifteen grains of quinine a day. To present this urgent problem to the attention of the Department Surgeon, the Commanding Officer of General Hospital Number 2 submitted a letter on March 10th, 1942, to the Surgeon. (See Tab #1)

A main concern during the latter part of March 1942, was to provide additional bed space. The hospital area was quite congested with 3,000 patients and further expansion of the hospital area was impracticable due to the nature of the terrain. Moreover, hospital personnel was inadequate in numbers to properly care for the patients. As the rainy season was expected in May, plans were drawn for a hospital in a new location. The necessity for this had been foreseen in February 1942, and there had been considerable discussion with the USAFFE Staff. A tentative site adjacent to Sisiman Bay, about km. post 169, had been set aside as a hospital reservation and some clearing and road installations had been begun. (A letter was directed to the Surgeon of the Service Command outlining the urgency of this matter. (See Tab #2)

Subsequent to the forwarding of the above-mentioned letter, the Engineer Corps, USAFFE, recommended that the original site was impractical due to the inability to obtain adequate water supply and they recommended that hospital facilities be developed in the unused bodega (warehouse) area, km. post 168, where water connections and existing roads could be utilized. The proximity of this location to the Ordnance Department area ruled against it as a desirable location but no other choice was possible. Construction began the latter part of March but the heavy bombing of this area prevented further progress and the project was abandoned. Further expansion of General

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Hospital Number 2 was now carried out by the securing of additional beds from Corregidor and increasing the size of the various wards.

Early in April, 1942, conditions in General Hospital Number 2 became somewhat chaotic. This was brought about by Japanese attack on our front lines which caused a breakthrough in the vicinity of Mount Samat. At that time several thousand soldiers were under treatment in the clearing companies of the various divisions. Lack of space in the General Hospital had precluded their transfer. By now it was mandatory that they be moved to avoid being infiltrated by Japanese infantry. The hospital census on the morning of April 4th was 3,256; it reached 3,510 on the 5th; 3,920 on the 6th; 4,500 on the 7th; 6,000 on the 8th; and 7,000 on the 9th. To make some pretense of accommodating these men, mattresses were placed on the ground, thereby doubling our bed capacity. Hundreds, however, were forced to lie on blankets on the ground. The majority of these new cases were medical cases, chiefly malaria, dysentery, malnutrition and exhaustion. A number of battle casualties, however, were received each day, including the 8th. The burden of receiving and handling some 5,000 additional patients, needless to say, was a tremendous burden on the administrative and professional staffs. The preparation and distribution of food for these men was just one of the many problems.

On the morning of April 9th, 1942, it was obvious that the capture of our hospital would occur in a few hours. There was considerable aerial activity by the Japanese over lower Bataan with almost constant bombing of the roads and airfield in our general vicinity. Patients and personnel spent much time in foxholes and dugouts trying to avoid the bomb fragments and machine gun bullets which were falling in our area. About 11:00 AM we were notified that surrender negotiations were under way. About 3:00 PM we were advised that all units of the Luzon forces had been ordered to surrender. All available Red Cross guidons were raised and one or two white sheets were placed on poles. About 5:00 PM a small group of Japanese infantry came into the central hospital area. The only inquiry of note was where pure water could be obtained. That evening about 8:00 PM, a group consisting of two Japanese officers and about twenty enlisted men returned to the hospital headquarters and summoned the Commanding Officer of the hospital. A lengthy interview resulted with the issuing of strict orders by the Japanese to the effect that we were now prisoners of war and subject to all Japanese rules and regulations and that failure to comply with their orders would result in the death sentence. These specific orders included (1) maintenance of strict blackout (2) prohibition of the use of the Real River except that a limited amount of water could be dipped out of it (3) restriction of all personnel to the natural boundaries of the area and (4) all hospital property was to be considered under the control of the Japanese Army which could

requisition any item that it might desire. A guard was posted throughout the hospital area and a password was issued for the use of the ward doctors.

On April 10th, the Japanese instructed all Filipinos to leave the hospital. Apparently the Filipino patients were under the impression that they were now free and would be permitted to return to their homes. By the evening of April 10th, many hundreds of these patients were trudging out of the hospital area toward the East road. In this group were many patients suffering from malaria, dysentery, diarrhea, malnutrition and large numbers convalescing from various types of wounds. Some wearing casts and extensive bandages were observed among the group departing. Mingle-
ling with our patients were hundreds of civilian refugees, includ-
ing old men, women and children. They were all heavily burdened
with assorted bundles, bags, tin cans, etc. For several days there
was a constant procession of these people coming down out of the
hills and proceeding toward the East road on their way out of
Bataan. Only a few of these people carried food and water. In a
few days the East road was littered with bodies of hundreds of
these people who died from exhaustion, lack of food, the natural
courses of their diseases, and atrocities committed by the Japanese.
Included in the group who were forced to march were all the Filipino
doctors and dentists and our attached civilian Filipino and Chinese
laborers.

On the same day the hospital was visited by a Japanese Colonel commanding the forces in the eastern sector of Bataan. He made a brief inspection of the hospital and spoke very good English. While he was engaged in conversation with the Commanding Officer of the hospital, some of the Japanese batteries opened fire in Corregidor. Addressing the hospital commander he said, "Why don't they surrender over there -- many of those poor fellows are dying -- all we desire is peace." After calling for a glass of "ice water" which was furnished him from our intact frigidaires, he departed and was seen no more. Hardly a day passed without visits by two or more Japanese officers who exhibited great curiosity at our hospital arrangements. Each one carried one or more cameras and spent much of their time taking pictures.

Throughout the 10th and for several succeeding days, Japanese troops with complete war gear marched through the hospital in the general direction of Mariveles or other places in lower Bataan. They appeared tired, but all were in excellent physical condition and their state of nutrition and muscular development was in marked contrast to the pale and emaciated bodies of our personnel and sick. A number of horses and Siberian ponies loaded with gear were noted in their columns. Occasionally these troops were halted in our

hospital area for a rest period. They defecated at will wherever they camped. Hundreds of them walked through the wards, messes, operating rooms, medical supply and collected watches, pocket books, rings, sunglasses and food. The mess and medical supply tents were promptly looted. They seemed to be particularly fond of our limited supply of fruit juices and milk. Our few remaining cases of sardines promptly disappeared. Their mechanics found our generators a convenient source of supply for items which they may or may not have needed, and very shortly stripped them so that our electrical system ceased to function. Moreover, wires were cut in several places. Within thirty-six hours all of the vehicles had been confiscated as well as all other motor pool supplies. To drive and service these vehicles a number of our Medical Department enlisted men were commandeered. At the first opportunity, the action of the Japanese Army in confiscating food, vehicles and men was protested to Major Sekiguchi who was the second ranking medical officer of the Japanese Army in the Philippines. He stated that all property in our possession was to be considered as Japanese property and that nothing must be refused that the Japanese Army desired, if so the punishment would be severe. When this officer was advised of the urgency of retaining milk and fruit juices, he stated that the Japanese Army was honorable and would not remove it from hospital control. When he was then informed that several truck loads of food had been removed under direction of Japanese officers, he stated that if food had been taken a receipt would have been given. He stated that inasmuch as we did not have a receipt, it was quite obvious that the Japanese Army had not taken it. During this conversation Major Sekiguchi became very angry and directed that the matter not be discussed again. It was then requested that the Japanese Army furnish "Keep Out" signs to prevent the further loss of our medical and surgical equipment and personal property of patients. A number of these signs were eventually prepared and posted as directed but that apparently carried little weight with the Japanese soldiers because the signs were invariably disregarded, and the hospital continued to suffer from the depredations of the Japanese enlisted men. As a result of whole-sale looting on the part of the Japanese, our diet was now limited solely to rice, except for a very small quantity of milk and fruit juices which we were able to retain for the use of the most seriously ill. To support our urgent requests to the Japanese for food the nutritional condition of our patients and personnel was brought to their attention in the form of the attached report. (See Tab #3) No action was taken by the Japanese to alleviate our food shortage.

The sharp drop in our patient census from approximately 7,000 to 1,500 permitted us to contract our wards so that all remaining patients were now placed in the central part of the hospital area. It was quite urgent to evacuate the medical wards which were located in the direction of Cabcaben. The Japanese Army had set up artillery

completely around our hospital area and a number of their troops were quartered within the hospital area. The fire of these Japanese batteries continued at intervals both day and night. The returning fire from Corregidor was placed in such a manner to avoid direct hits in the hospital area. However, the shells from Corregidor burst so close to us that we were subjected to a daily spray of fragments. On one occasion the nose of a fourteen-inch shell landed in our receiving ward, other fragments struck hospital headquarters and the adjacent dental clinic. Due to the fact that we were protected by a dense growth of bamboo clumps and very tall trees and because we were able to use dugouts and foxholes, our personnel were able to escape injury at least most of the time. After a couple weeks of constant exposure to shell fragments it is probable that headquarters on Corregidor believed that the hospital had been moved. On April 22nd a number of shells landed directly in one of our wards and mess halls. About twenty men were killed or injured. On other occasions shells burst and duds landed without injury to anyone. The hospital commander repeatedly made protests to Major Sekiguchi. His reply was that the Japanese Army was engaged in the prosecution of the War and until Corregidor fell no action would be taken to move the patients or personnel of General Hospital Number 2.

Shortly after capitulation, Major Sekiguchi ordered the collection of medical stores and supplies located at the nearby medical depot and removal to the medical supply area of General Hospital Number 2. This was a formidable task as he directed that the supplies be carried by our men. These men were in a weakened physical condition due to prolonged under-nutrition and fatigue from four months of continuous effort without rest or relief. He was finally prevailed upon to authorize the use of a broken-down truck which mechanics were able to repair. After two weeks' work, all remaining supplies from the medical depot were concentrated in our area and covered with canvas.

Early in May our guards informed us that Corregidor would soon be captured. In fact they were specific, stating that it would occur on May 5th or 6th. One of the guards spoke a little bit of English and he was asked by what method the Japanese would capture Corregidor. He indicated by sketches that landing barges containing men and tanks supported by heavy artillery fire and by a blanket of planes overhead, would effect a landing on Corregidor. Surprisingly, during the night of May 5th to 6th a tremendous Japanese artillery barrage, followed later by the sound of small arms fire, convinced the group that the final attack was being launched. By the afternoon of May 6th it was evident to us that Corregidor had fallen, but the Japanese continued to fire their artillery at Corregidor as late as the evening of May 6th.

A few days after the fall of Corregidor, the Commanding Officer of General Hospital Number 2 was directed to move all serious cases to General Hospital Number 1 at Little Baguio. Having anticipated that such a movement would eventually be made, he had completed the servicing and renovation of twelve commercial buses that had been used as sleeping quarters for the Army nurses. Using these vehicles and gasoline which had been concealed from the Japanese Army with approval of the Japanese medical officer, approximately 600 bed cases were moved on May 11th to General Hospital Number 1. At the same time about five truck loads of the most valuable medical supplies remaining at Hospital Number 2 were also transported to Hospital Number 1 and turned over to its Commanding Officer. These supplies included 350,000 5-grain quinine tablets; 100,000 sulfa tablets; blood plasma; dressings; and many other items too numerous to mention. These supplies were transported without the knowledge or permission of the Japanese medical officers. Major Sekiguchi had instructed the Commanding Officer of General Hospital Number 2 that all medical supplies and equipment should be left at Hospital Number 2 and should not be removed. It was felt that these supplies were destined for the use of the Japanese Army. The supplies mentioned above were eventually transported to prisoners of war at Camp O'Donnell where they undoubtedly were used to save hundreds of lives. 700 ambulant recovered patients remained at General Hospital Number 2 area and were transported by the Japanese to Manila on May 26th. From there they were sent in a few days to the Prisoner-of-War Camp at Cabanatuan. The majority of the Medical Department personnel of General Hospital Number 2 were transferred by Japanese order to the vicinity of Hospital Number 1. After a period of ten days they were transported to Bilibid Prison, Manila, and a few days thereafter were sent to Cabanatuan Number 1. General Hospital Number 2 ceased to exist on May 12th, 1942.

Philippine Army General Hospital. Upon withdrawal of the Philippine Army into Bataan during the latter part of December 1941 and early January 1942, the Surgeon, Philippine Army, planned the establishment of a general hospital in the rear area of Bataan. He decided to place it conveniently near the Philippine Army Headquarters which was located on the West road opposite km. post 180. The site selected was in a ravine about one-fourth kilometer from BASE CAMP, km. post 171, Cabcaben-Mariveles road. The available space for expansion was limited due to the rugged nature of the terrain.

Materials for hospital construction were limited. Wooden floors were provided for hospital tentage. A number of tents were established for wards, surgery, etc. Bamboo platforms were constructed to supplement the limited number of iron beds and cots. A small surgical pavilion and first-aid dressing room were provided but most of the facilities were planned for the handling of medical cases or minor wounds.

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The personnel assigned to this hospital was exclusively Filipino and included doctors, dentists and corpsmen. There were no female nurses in attendance.

The functioning of this hospital was limited to the handling of cases arising in rear area Philippine Army units. It was not planned to serve front line organizations which were serviced by General Hospital Number 1 and Number 2. Comparatively few patients were under treatment. The census seldom rose above 100 until the last week of the campaign, when removal of patients from the forward clearing companies required its fullest use. Some 250 patients were under treatment at the time of capitulation.

During the latter part of March and early in April, a number of bombing raids occurred in the immediate vicinity of the hospital.

After capitulation it was impossible to determine what happened at this hospital when the Japanese troops penetrated that area. About five weeks after the fall of Bataan some American Medical Department personnel visited the area and found it to be completely wrecked with about fifteen dead Filipinos in the ruins of the hospital.

Summary and conclusion. An attempt has been made to outline the important problems of hospitalization in Luzon and their solution during the defense of the Philippines. In brief, it may be stated that with grossly inadequate personnel, a large hospital center was organized in Manila which functioned briefly and was then disbanded when the evacuation of Manila was ordered on December 22nd, 1941. The development of this project was further complicated by the necessity of treatment and disposition of some two thousand casualties. Coincident with the construction of the hospital center, the organizing, staffing and servicing of two large general hospitals located in the jungle and mountainous terrain of Bataan was begun. These hospitals were far removed from adequate transportation facilities. Space for one of these hospitals was literally hacked out of the jungle. Some twenty thousand patients were treated in a period of slightly over three months. Moreover, the entire project was organized, developed and administered in the face of enemy action by personnel who were unable to secure rest or relaxation and who suffered the debilitating effects of malnutrition and various tropical diseases.

There were mistakes, errors of judgment and fruitless effort but on the whole the main objective of the Medical Department was accomplished. Life was saved and suffering relieved on a large scale.

In conclusion, one must pay tribute to the loyalty to the sick shown by all personnel of the Medical Department, both American and Filipino, and to their splendid cooperation, devotion to duty

and Herculean efforts which made possible a superlative accomplishment in the face of almost insurmountable difficulties.

6. THE PHILIPPINE MEDICAL DEPOT. (From December 8, 1941 to May 6, 1942)

Shortly before the outbreak of hostilities, the organization of the Depot consisted of: one Major, MAC, Commanding Officer; three Lieutenants, MAC; five noncommissioned officers; one Private First Class, American; one Private First Class, Filipino Scout; and about thirty-five civilian employees. Just prior to hostilities one general hospital (1000 beds) had been stored at Limay, Bataan. Two additional warehouses in Manila had been leased. One housed Class VII supplies and in the other the equipment of an old 1000 bed general hospital and one 750 bed evacuation hospital. A compound of five buildings had been leased at 92, Pandros Street, Santa Ana, Manila, and equipment of all classes was transferred from the port area to these buildings. These buildings were ideally adapted for use as warehouses. Four buildings had two floors, the lower floor being concrete. The second floor of each building being connected with the other buildings by covered runways. This compound was located on the banks of the Pasig River, and it was planned to build a dock in order that supplies could be received from the port area by barge. About 4,000 collapsible hospital beds were stored at Fort William McKinley.

The equipment of two new general hospitals began to arrive in Manila about November 1941. A portion of this was sent to Estado Mayor for use in conjunction with Sternberg General Hospital.

On outbreak of hostilities all available hospital supplies in Manila were purchased. Civilian personnel increased to about 235 but it was impossible to secure additional trained commissioned personnel. Medicine and equipment was shipped to all points of Luzon and by water to other islands. A 100 bed hospital was lost on the S.S. Corregidor in Manila Bay when the ship struck a mine. On December 23rd, 1941, orders were received to evacuate Manila, and to transfer all supplies and equipment. The evacuation was carried out rapidly. By nightfall of December 23rd, 1941, the first convoy of thirty trucks left Manila. The following day the last convoy departed. At this time there were 100 truck loads of supplies en route. The Philippine Medical Supply Depot was located at km. post 162.5 on the Bataan-Mariveles Road. On December 29th a subdepot was located at Orion, Bataan, to furnish front line units with supplies. On January 4th, this installation was bombed and the personnel returned to the Philippine Depot with all the supplies that could be salvaged. Convoys returned to Manila for supplies both day and night until January 1st, when the road between Manila and Bataan was cut off by the Japanese. Personnel trapped in Manila abandoned their supplies and escaped to Corregidor by boat.

The personnel of the Depot transferred supplies from December 23rd to January 1st, 1942, and worked with scarcely any rest. They went through many bombing raids while performing their duty efficiently and with dispatch. Every vehicle that left Manila with supplies reached its destination. The civilian drivers performed their duty without complaint. The morale of the organization was very high during the entire campaign.

General Hospital Number 2 began to function late in December 1941 in Bataan. Supplies were furnished to it from the depot and as the census of the hospital rose to 5,000 early in April the drain on the supplies was very heavy. The Philippine Army General Hospital was equipped and supplied, from the Medical Depot. Small shipments of supplies were flown from Cebu and Iloilo but they were totally inadequate to meet the demands. They consisted of sulfa drugs, quinine and vitamins.

All available quinine and sulfa drugs in Manila were purchased before the city was evacuated. Much time was spent by the Depot personnel in the preparation of mixtures for the treatment of diarrhea and dysentery. The demand for sulfa drugs and vitamin preparations was greater than the supply. Quinine for prophylaxis was discontinued by March 1st, 1942, in order to conserve enough quinine for the treatment of actual malaria.

On January 30th, 1942, a subdepot was established on Corregidor where the bulk of surplus supplies and equipment not needed in Bataan were sent. Only a six weeks' supply was maintained in Bataan. All supplies and equipment in Corregidor and Bataan were stored under natural shelter. Trenches were dug and covered in which were stored drugs in bottles and tins to safeguard them from shell and bomb fragments and from strafing. All inflammable materials were buried in pits as a precautionary measure.

On April 8th, 1942, all critical supplies on hand at the Depot were removed to General Hospital Number 2 and the personnel of the Depot were attached for duty with the exception of the Commanding Officer who had been ordered to proceed to Corregidor. During the evening of April 8th, an attempt was made to ship supplies from the Cabcaben dock but it was impossible to accomplish this and they were eventually taken to Mariveles and transferred to Corregidor on April 9th.

After the capitulation of Bataan three shipments of medical supplies were received from the South, two by plane and one by submarine. They consisted mainly of quinine, sulfa drugs and vitamin preparations. Many critical supplies in the Depot on Corregidor were stored in the Malinta Tunnel but lack of space prevented storage of all supplies. On April 22nd the Depot on Corregidor was destroyed by shell fire. The remaining personnel of the Depot were attached to the Medical Department, Fort Mills, and surrendered to the Japanese on May 6th.

7. THE MEDICAL SERVICES ON CORREGIDOR.

The Harbor Defenses of Manila Bay consisted of the following fortified islands: Corregidor, Fort Hughes, Fort Drum, and Fort Frank. These are located at the mouth of Manila Bay, about thirty miles from Manila. Corregidor, the largest and most important of the islands, lies between Bataan peninsula and Cavite province on the mainland of Luzon, being about nine miles from the former and four miles from Bataan at the nearest points. Corregidor is in the shape of a pork chop with the widest portion facing the ocean and the tail curving towards Cavite. It measures approximately five miles long by one and one-half miles wide at the widest point. It is heavily wooded and numerous roads connect the various artillery batteries, which surround the periphery of the island. There are two elevations: Malinta hill, about one-third of the way from the tip and a plateau occupying almost the whole seaward part of the island.

The military personnel consisted chiefly of the 59th Coast Artillery, 60th Coast Artillery, and the 91st Coast Artillery (PS), and 92d Coast Artillery (PS). In addition there were appropriate supporting units of line and service elements. At the outbreak of the War there were about 8,000 Americans, 2,500 Philippine Scouts, and 2,500 civilian Filipinos. After Bataan fell about 1,000 additional personnel came to Corregidor from Bataan.

The structures and facilities assigned to the Medical Department consisted of one station hospital of 200 beds. In addition a portion of the Malinta tunnel was earmarked for Medical Department uses.

The sanitation on Corregidor prior to the War was excellent. Potable water was obtained from deep wells. There were no Anopheles mosquitoes and malaria of Corregidor origin was unknown. The health of the command at outbreak of War was superior.

The mission of the Medical Department at outbreak of War was to provide for the medical care of the sick and wounded, and to recommend suitable measures for the prevention of sickness and injury. The above mission plus all the ramifications involved in carrying out this mission constituted the responsibility and duty of the Medical Department on Corregidor.

The Medical Department on Corregidor after the outbreak of the War was organized as follows: The Surgeon, Harbor Defenses, who had supervision over all Medical Department personnel on the fortified

islands and in addition was Commander of the Station Hospital, Fort Mills, Corregidor. For medical purposes, Corregidor was divided into zones and a medical unit consisting of two (2) medical officers, plus noncommissioned officers and Medical Department enlisted men, were assigned to each zone and to each of the three small fortified islands. It was the duty of the Surgeon for each zone to provide medical care for all the troops in his zone regardless of their unit. He was also responsible for the sanitary conditions in his area. Each zone medical officer was assigned to a coast artillery regiment so he performed the dual functions of regimental Surgeon and Zone or Area Surgeon. His duties involved holding daily sick call, treating and supervising the evacuation of the sick and wounded and making frequent sanitary inspections and reports. His medical supplies consisted of medical chests and litters similar to those for the battalion aid station.

Hospitalization. The day of the first bombing of Corregidor, 29th of December 1941, the topside hospital was directly hit several times, killing one medical officer and injuring others of the personnel. From this date on the hospital was untenable and the whole hospital installation was moved to the Malinta tunnel. With the cooperation of the Engineer Corps this tunnel hospital was enlarged so that 1,000 patient beds became available. This proved to be entirely adequate and there never was a time when there was a shortage of hospital beds. An operating room was established and all surgery for Corregidor and the fortified islands' casualties was done here.

Evacuation. Since all the medical departments in the zones of Corregidor were constantly exposed to enemy bombing and shelling, it was impossible to render any but emergency treatment to the sick and wounded. Casualties were evacuated by ambulance to the tunnel hospital for definitive treatment. Casualties from Forts Hughes, Drum, and Frank were brought over by boat at night.

Professional Medical Aspects. From the time of the outbreak of the War and progressively thereafter, proper sanitation became an increasingly more difficult problem to cope with. The devastation caused by the bombs and shells afforded ample mosquito and fly breeding facilities as well as rat hide-outs. Unbelievable numbers of flies were present with the constant danger of spread of enteric diseases. Bathing facilities for the men were inadequate or absent. However, by frequent inspection and recommendations to the unit commanders, relative to the sanitation problem, we were able to go through this period without the outbreak of any epidemic of communicable diseases. The effectiveness of the supervision was exemplified by the outbreak of communicable diseases in epidemic proportions after the fall of the Philippines and when the troops were without adequate medical supervision in the Jap prison camps.

The evacuation service on Corregidor can be exemplified by reciting a typical case. During, or shortly after, a bombing or shelling, word would be received at the aid station by telephone or messenger that there were casualties in a certain area. The medical officer and the litter squad then went to the casualties, having first left word to send for the ambulance from the tunnel. Then necessary first aid measures were rendered and usually by the time these were completed the ambulance had arrived. From the time the wound was incurred until the patient was on the operating table in the tunnel was a matter of minutes and rarely did the time take over one hour. This is one of the important reasons for the excellent results obtained with lack of sepsis and absence of gas gangrene or tetanus cases.

The types of cases were those from bomb and shell fragments with no small arms bullet wounds until the last day of the siege. There was a high proportion of killed outright to the total casualties. The remarkable protection afforded by any kind of shelter, provided a person's body was below the surface of the ground, was demonstrated conclusively. Numerous instances of shells landing within a few feet of individuals lying in a shallow ditch, perhaps only one foot deep, but without damage involved, have been recorded. On the other hand, to be standing upright during a shelling invited disaster. These simple facts were soon learned by all the occupants of Corregidor, with the result that frequently after the most intensive bombing or shelling, lasting perhaps hours, no casualties occurred. When one considers the number of daily bombing raids and intensity of shelling over such a protracted period, it is amazing so few casualties occurred; furthermore, only about 2,000 of the personnel were in the tunnel, the remaining 11,000 were exposed to the shells with meager protection.

War in Corregidor can be divided into three phases: (1) From the outbreak of the War, December 8, 1941, to January 15, 1942; (2) From January 16, 1942, to April 9, 1942; (3) From April 10, 1942, to May 6, 1942. The first phase and the time from December 8 to December 29 was characterized by a feverish effort to perfect the radical organization. Work begun on the tunnel and air raid shelters was completed with a minimum of delay. Then on the 29th of December bombs fell for the first time and the War was on in earnest. From the 29th of December to the 15th of January was characterized by heavy daily frequent bombing. From the 15th of January until the 9th of April the Jap was apparently occupied in Bataan and it was a period of quiescence. Beginning about the 10th of April and continuing through the final assault on Corregidor, the 6th of May, the bombing increased in intensity and about the 17th of April Jap

batteries from Bataan opened fire and from then on terrific shelling occurred, thereafter and daily.

The Tunnel Hospital. The tunnel hospital deserves a word of description, though its fame has been spread so that it is generally quite familiar. It consisted of a series of concrete-lined tunnels used as wards which were offshoots of the main tunnel. Every available space was utilized and three-deck beds were used so that eventually 1,000 beds became available. Latrines, flushing type, showers, and running water were available. To conserve water certain hours were allotted for use of showers. The wards were organized similarly to those in a general hospital, with doctors, nurses, and enlisted men assigned to each ward. Light was furnished continuously by a neon-type fixture.

The zone surgeons had several paramount problems at all times. First, an aid station had to be located and maintained. Any stations above ground were soon reduced and even those well protected had to be relocated frequently due to combat changes. Second, continual pressure had to be maintained on the unit commanders to insist that sanitary orders were carried out. Thirdly, casualties had to be located, treated, and evacuated to the Malinta tunnel hospital. Location, particularly at night, was difficult and dangerous. The Japs had a habit of firing for some time, then after a brief rest period resuming fire for a short while. This frequently caught the zone surgeon and evacuation personnel in vulnerable positions.

The diseases that occurred on Corregidor can be divided into several groups. Respiratory diseases led the list. These were mild and pneumonia was rare. Of the gastro-intestinal diseases, diarrhea was the most common type. Because of the use of canned food and occasional storage of it overnight without refrigeration, sporadic cases of diarrhea, the food-poisoning type, occurred. Dysentery was rare. Practically all the cases of either amebic or bacillary dysentery were from personnel who had been in Bataan. This never became the problem that it did in Bataan. Malaria of Corregidor origin was unknown prior to the War. Malaria on Corregidor, except for those cases coming to Corregidor after the fall of Bataan, was not significant. The vitamin deficiency diseases were just beginning to make their appearance at the time of the fall of Corregidor. The first one noted was beriberi, both the wet and neuritic types. However, only a small fraction of the personnel showed evidence of suffering from vitamin deficiency of any type.

Cases of battle fatigue (shell shock) were few in number. Only a handful of patients (six or eight) were in the hospital with this diagnosis. The reasons for fewer cases than might be expected have not received universal agreement. One theory is that there was no haven of retreat. There was no zone of the interior to which the individual could be sent, and everyone knew that. Another factor may have been that there was no let up. Frequently an individual will stand the first shock of War well, and then after a period of rest in a situation away from the front, will experience difficulty on returning to the front. Here the War was always with us and once the adjustment was made, there were no new adjustments to be made. Whatever the reason, the facts are that psychosis and neurosis cases were few in number.

Generally speaking, the health of the command on Corregidor was good. In no way were conditions comparable to those existing on Bataan.

Corregidor: The 92d Garage Area. When General Wainwright acceded to the demands of the Jap Commander and agreed to surrender Corregidor approximately 8,000 American soldiers, sailors and marines and 5,000 Filipino troops and civilians fell into enemy hands.

All of these prisoners, with the exception of a few thousand injured or wounded who were lying in the Malinta Tunnel Hospital, were interned in an area on Corregidor known as the 92d Garage Area. This was a level, concrete-floored area, possibly 500 feet wide and 1,500 feet long, located between the beach and the cliffs inshore on the southern portion of Corregidor, facing Cavite Province. It was filled to overflowing with War prisoners. The only building in the area was a garage that had been rendered uninhabitable by reason of enemy bombing and shell fire. Officers and enlisted men alike were placed in groups of 1,000, with an American colonel in charge of each group.

Each prisoner was given a number, which had to be painted on the back of his shirt or trousers. In the scant two days that elapsed between the actual capitulation at noon, 6 May 1942, and the internment of the prisoners in this area on May 8th, the Japanese robbed many prisoners of their possessions, such as watches, fountain pens, rings, eye glasses, wallets and money. All the prisoners, officers and enlisted men alike, were required by Japanese order to salute Japanese soldiers and officers if they were covered, and to bow from the waist if they were uncovered. This rule was strictly enforced by the Japanese soldiers. The Filipino prisoners were kept separate from the Americans by an imaginary line.

Within a few days after the surrender, the Japanese began calling on the American prisoners for large labor details for such purposes as cleaning up gun positions, completing the airfield, rebuilding roads, gathering ammunition, and loading the remaining food stocks on Japanese freighters for transport to Manila.

The prisoners joined together in small groups and, with the aid of a few shelter halves and other pieces of scrap material, made temporary shelters to protect themselves from the burning sun and tropical storms.

For the first three days no food was issued to the prisoners, and many of them risked being shot by wandering outside of the area designated by the Japanese as a prison compound, in search of food and clothing. After three days the Japanese did issue a small allowance of rice for each man. The only additional food they had was canned goods which they were occasionally able to salvage or steal while out on work details for the Japanese. Many of the prisoners were severely beaten when they were caught taking any of these supplies, and were told by the Japanese that all such supplies now belonged to the Japanese Government.

There was no water available for the first three days, but finally, after many entreaties from American officers, the Japanese permitted the Americans to install a one-fourth inch pipe as a conduit from water reserves two miles distant from the area. The men had to stand in line from four to six hours each day to secure one canteen of water. The Japanese enclosed the area with hastily thrown up barbed wire fences and warned the Americans and Filipinos that anyone leaving this area without a Japanese guard would be treated as a criminal and shot.

Sanitary facilities were extremely poor. Open latrines, dug in the middle of the area, drew swarms of flies and other disease-bearing insects. Many of the prisoners contracted dysentery during this period. A small dispensary was set up by captured American Medical Officers and men. With the very limited supply of medicines and drugs at their disposal these men performed almost impossible feats during the following months in their efforts to keep alive the thousands who were suffering from prostration, dysentery, malaria, and malnutrition.

All of the patients in the Malinta Tunnel Hospital who were able to walk were, by order of the Japanese in command, forced to leave the hospital and join their fellow prisoners in the 92d area.

Fort Drum. The officers and enlisted men captured at Fort Drum were subjected to two days of mistreatment after their surrender. They were herded into small areas, not allowed to lie down or sleep,

and forced to go without food and water. It is reported that this incident was due to the fact that the Americans defending Fort Drum had killed a high-ranking Japanese officer on Bataan when they dropped a fourteen-inch shell amidst a large group of Japanese soldiers. This high-ranking officer allegedly killed was said to have had a brother still in Manila, who ordered the ill-treatment of the group captured in Fort Drum as a reprisal measure. For several hours after the capitulation of both Bataan and Corregidor the Japanese Air Force continued to bombard remnants of the American forces, who had been notified of the acceptance of unconditional surrender by the Japanese, and who were attempting to lay down their arms and turn themselves and their equipment over to the occupation forces.

Fort Frank. The men of this garrison, after their capitulation, were forced to board a transport on which they were taken to Nasugbu, where for several days they labored preparing the docks and other neighboring facilities for the Japanese Army. They were given little or no food or water during this time, and were forced to work under the hot, broiling sun. They were subjected to frequent beatings and torture at the hands of their captors. After about two weeks those prisoners were transported to the prison camp at Cabanatuan.

The picture in Malinta hospital after the surrender of Corregidor was somewhat better than in the Prison Camps. The hospital was unmolested and allowed to continue its function. Arrangements were made for assignment of medical officers and enlisted men of the Medical Department to the main prison camp and they remained on twenty-four hour duty there. About twice a day the sick were carried by litter to the main hospital and as patients recovered they were transferred from the hospital to the prison camp.

Difficulties were encountered in contacting the Jap Commander, but after a week had passed and with the aid of a Hawaiian-born Japanese interpreter, contact was made with the Jap medical officer. This officer took an interest in the hospital and from then until we were removed from Corregidor our needs were taken care of by the Japs in a fairly decent manner. The first major project we attempted was to improve the sanitation at the main prison camp on Corregidor and to try to get the Japs to move the prisoners to suitable quarters. This latter was finally done through the intercession of the Jap medical officer.

March Through Manila. On May 24, 1942, the prisoners of who were interned in the 92d Garage Area were evacuated from Corregidor and loaded into the holds of three vessels that were standing at the dock. They spent the night on board crowded in such a manner that it was impossible to stand or move about. On the morning of May 25th the transports pulled up anchor and sailed across Manila

Bay to the shore opposite Pasay. There all of the prisoners of war were made to embark into the Japanese landing barges, which then moved in toward the beach. When the barges approached the shore the prisoners were forced overboard in about four feet of water and obliged to make their way as best they could to shore, where they were assembled in columns of four.

From this point they were marched to Bilibid Prison, a distance of about five miles, herded and kept in line of march by mounted Japanese cavalrymen. Only in exceptional cases were any of the groups allowed a rest period during this march. Many Filipino people along the road of march tried to deliver food, candy and cigarettes to the prisoners, but each attempt was met with a slap or a beating of the hands of the Japanese guards. This march through the main streets of Manila was forced upon the prisoners of war from Corregidor apparently in an attempt to show the Filipino people that the Japanese people were a superior race and the white men were inferior to them.

The prisoners arrived in Bilibid during the afternoon of May 25th. There were now about 12,000 prisoners here, in a place designed to accommodate 4,000 at the most. Each day a large group of the prisoners was evacuated to Cabanatuan prison camp in northern Luzon, where they were later joined by the surviving Americans from Camp O'Donnell.

There were several reasons for the bad treatment accorded to these prisoners. For one thing, there was the barrier of language. Very few Americans had any knowledge of the Japanese language, and as a result they frequently brought down punishment on their heads through unwitting and unintentional disobedience of orders that they did not understand. In other cases the treatment was due to the policy of indifference exercised by the local Japanese commander, and in many other instances, it was quite plainly a matter of revenge.

Meanwhile with the cooperation of the American Engineers remaining on Corregidor the topside hospital was renovated and made suitable for habitation. Numerous shell holes had to be repaired and about eighteen unexploded shells removed. Then on June 25th all the patients, many of whom had been in the tunnel since the early days of the War, were moved to the topside hospital. Here conditions were perhaps the best that we experienced at any time as prisoners. Food was adequate and there was considerable latitude in the movements allowed hospital prisoners. There were frequent inspections by Jap officers, medical and otherwise, and they seemed to be trying to do what they could to relieve our situation. Our request for contact with the Red Cross representative in Manila was refused and it was later learned that he was interned in

Santo Tomas. The Jap guards were not allowed in the hospital area and they had to obtain our permission to come inside. An intensive program of various activities was begun, including sport programs, literature courses, and studies of many types, in order to try to develop interests in the personnel on which they could concentrate on in the long days which lay ahead. In general, our health at this time was fairly good. Sanitary conditions were well under control as the Engineers had repaired all the utilities on Corregidor, which gave us running water and even electric lights. The food consisted of rice and salmon with some vegetables and fruits two or three times a week and meat about twice a week. We complained about the food to the Jap Commander and after he had inspected our food supply (which according to their standards was excellent) we were told that any further complaints would result in our being placed on rice only. In the light of later ration experiences, our food during this period was excellent.

Finally on July 2nd our Commanding Officer was notified at 9:00 AM that we were to be moved to Manila and to have all the patients loaded on the ship by 4:00 PM the same day. By working hard all day the loading was completed at 1:00 AM that night. The nurses and four officers stayed in the hospital that night and were loaded about 6:00 AM the following morning. We arrived in Manila about noon and those who could walk were marched through the streets to Bilibid Prison. The bed patients were taken by truck. Here we found the Navy medical personnel who had remained in Manila when it was evacuated had established a hospital in the old Bilibid Prison. All of our patients and equipment were turned over to them on this date (July 3, 1942). Approximately 100 Army and Navy nurses, American and Filipino, were separated from the prisoners and assigned to duty with the civilian internees at Santo Tomas University in Manila.

Status Given to Prisoners of War by Japanese. The Japanese Military in the Philippine Islands, as elsewhere in the field, displayed little evidence of any sense of responsibility for the lives and welfare of the prisoners under their care. The survivors of Bataan and Corregidor were informed that they would be treated as "captives" until all the guerrilla units that were operating in the islands had surrendered.

In August 1942, it was announced by the Japanese Military that from that time on these captives would have the official status of prisoners of war. As a matter of fact, though, this announcement made little change in the conditions under which the prisoners lived. Camp commanders and their subordinate officers paid scant attention to their charges, being for the most part content to leave the responsibility for their supervision and care in the hands of privates and noncommissioned officers. These men, many of them uneducated and uncouth, and most of them brutal, gave the

prisoners their orders, and made whatever arrangements were put into force for the prisoners' welfare.

8. THE MEDICAL SERVICE, MOUNTAIN PROVINCE.

Camp John Hay, the second largest military reservation in area in the Philippines, was located on the outskirts of the City of Baguio in the Mountain Province, some 5,000 feet above sea level. The purpose of this camp was principally to furnish relief from the severe tropic heat and humidity to the military and naval personnel stationed in the Philippines. The camp offered a place of rest and relaxation in a temperate climate within 200 miles of Manila. There were excellent quarters and messes both for officers and for enlisted men. A very fine golf course (eighteen holes), tennis courts, Officers' Club and Enlisted Men's Club were available. The camp was usually filled to capacity over the weekends, especially by the Air Corps, who could fly from Nichols Field, Manila, or from Clark Field at Fort Stotsenburg within an hour.

The Station Hospital, Camp John Hay, was an excellently and completely equipped hospital of thirty-five beds. The purpose of the hospital was to take care of the sick and wounded at Camp John Hay, which included the following organizations: Camp Staff, one battalion of 43d Infantry (PS), American Detachments of Quartermaster, Signal Corps, Finance, the West Point Prep School, and the 12th and 13th Infantry Regiments (PA). Also included in the Medical Detachment's responsibility was the care for the visiting personnel of other stations on detached Service on sick leave and convalescent cases from other military or naval hospitals in the Islands.

The Staff of the hospital consisted of one medical officer and two nurses. There were fifteen enlisted personnel in the Medical Detachment (PS), a First Sergeant, Supply Sergeant, Pharmacy Sergeant, Operating Room Corporal, Laboratory and X-ray Corporal, Dental Corporal, and nine Privates First Class and Privates for Ward Attendants.

The diet at the camp and hospital messes was excellent because of abundance of fruits and vegetables grown in the vicinity of Baguio.

The water used on the Post was obtained from mountain springs and was always potable by test.

The sanitary conditions were excellent. Inspections of the entire camp were made at least once a week.

Training of the Medical Detachment became intensive at Camp John Hay about October 1st, 1941. Close order drill, first-aid

to wounded, evacuation of sick and wounded over mountain trails, and aid-station training and maneuver were stressed.

War came to Camp John Hay only a few hours after the bombing of Pearl Harbor. At 8:19 AM, December 8th, 1941, (December 7th in U.S. and Hawaii) about 150 bombs (100 and 500 pounds) were dropped by seventeen heavy Japanese bombers, making several direct hits on buildings and barracks.

The Japanese apparently had two ideas in bombing Camp John Hay: (1) to catch many unsuspecting officers relaxing in the officers' quarters over the weekend, and (2) to divert the fighter planes from Clark Field while they devastated it three hours later. They were successful only in their second plan. Most officers were confined to their duty area by a general alert, and did not visit Camp John Hay during the weekend.

The first impression of the camp personnel when they saw the high-flying bomber formation was that they were glad our Air Corps was on the job. The personnel stood and watched.

Casualties were eleven enlisted men and civilians killed and twenty-five more, including several officers severely wounded. Every form of transportation was pressed into service, and within ten minutes all the wounded were in the station hospital.

When the wounded arrived at the hospital, the operating room was fortunately all set up for operation. Operations were performed immediately in spite of electricity and water shut-off due to the bombing. The two nurses and each of the fifteen enlisted men of the Medical Detachment performed outstanding service, in spite of constant strafing of the camp by an enemy plane. Within three hours all of the patients had been operated on and evacuated to a civilian hospital (Notre Dame) where they would be safe from further bombing of the camp.

The Medical Detachment then went to work digging foxholes and air-raid shelters. On three other occasions Camp John Hay was bombed with numerous casualties, but no deaths. The wounded were operated and evacuated as stated above.

The Japanese Army landed on the beaches between Vigan and Damortis (less than twenty miles from Baguio) as early as December 10th, 1941, but were repulsed. Within the next week the Japanese landed in force, and drove the few regiments of Philippine Army from the beaches back into the mountains. This action cut off the only two roads from Baguio to Manila.

A company of the 43d Infantry (PS) with two medical aid men each, was placed across each of the two roads to defend Baguio from the rapidly advancing Japanese. Our wounded who were not captured by the enemy, and who were able to get back up to Baguio by any available transportation, were taken care of at our hospital. Minor casualties were sent back to their troops. Serious cases were immediately evacuated to the Notre Dame Hospital in Baguio. These cases were taken care of by civilian doctors and hospital staff, who made all of their facilities available to our wounded. Our Army staff visited the wounded several times daily.

Finally on December 22nd, 1941, USAFFE ordered Camp John Hay evacuated. We immediately moved our new portable X-ray machine, all of our surgical operating instruments, operating table, infra-red and ultra-violet lamps, beds, and blankets to the Notre Dame Hospital for safe-keeping. The wounded, about thirty in number, were left under the care of the civilian doctors to be captured by the invading Japanese.

As mountain trails (foot) were the only means of trying to outflank the Japanese and get through to Bataan, it became necessary to discard all equipment except what we could carry on our backs. Only patients who were able to hike for five days over rugged mountain trails were allowed to go. The two nurses were given fatigue clothes and packs, and joined the column with same.

After climbing steadily for twenty-four hours we reached a lumber camp, Lasud sawmill, on the top of a mountain, where there were already some sixty American women and children, wives of gold miners in the Baguio area. We decided that the nurses should stay there with the other American evacuees, as the mountains were too rugged for them to attempt to continue. Adequate food for a six months' stay was obtained by cable car from the Camp John Hay warehouses. It was felt that if the nurses were to be captured by the Japanese, they would be better off with a large group than by themselves.

As it was going to be a race to outflank the Japanese Army at San Jose, permission was requested to go on ahead with the medical detachment, as we felt we could move faster in small groups. The request was granted, provided we would furnish information of the trails ahead and send it back by runners, which we agreed to do.

Our medical detachment plus two attached American enlisted men who had been stranded in Baguio by the previous action on the beaches, climbed over the mountains all of the daylight hours to the limit of our tolerance. By December 28th we had reached Balete Pass, which was on a road leading to Bataan, and from where we obtained truck transportation.

The next morning near San Jose, where we had hoped to outflank the Japanese, we ran head-on into a column of Japanese tanks. We dismounted and scattered into the adjacent jungles, under heavy machine-gun fire. Three of the enlisted men stayed. We were surrounded by enemy units, but they had not discovered our exact location. Through the kindness of loyal Filipinos (civilians) we were supplied with small amounts of food, which they would bring to us under cover of darkness.

The Supply Sergeant was dressed in civilian clothes and went back to the road to observe movements of the enemy. On January 16th, 1942, he contacted five men of our medical detachment, who had been separated by the machine-gun fire, and brought them back. These men had dressed themselves as civilians and hiked over 100 miles through Japanese-held territory to Manila, where they went to Sternberg General Hospital on January 6th, 1942, to find it occupied by Japanese troops. After investigating and learning that they were cut off from Bataan, they returned the 100 miles on foot to report their findings.

Being unable to feed them, they were sent back to Baguio to do G-2 work. They were told to contact the first American forces coming into that area.

From our place of observation in the mountains to the East of San Jose we could hear the rumble and see the flashes of the artillery on Bataan and Cavite. Having no further information we remained in that vicinity for three months, feeling rather strongly that help would soon arrive. We debated as to whether we should go to the East and try to make our way South by boat.

Finally in the last days of March we ran into a small patrol of Filipino guerrillas from Jones, Isabella, where they were attached to the newly formed 14th Infantry (PA). By travelling at night along river basins (dry) and mountain trails we were able to get out of Japanese territory. After ten days on foot, we had accomplished the 150 miles to Jones, Isabella, where we reported to the acting Commanding Officer of the regiment.

9. THE MEDICAL SERVICE, VISAYAS - MINDANAO FORCE.

On or about August 27, 1941, a group of six American officers arrived at Cebu, Philippine Islands, and established headquarters there. The mission of this group was to organize, coordinate and supervise the training of the troops of the Philippine Army then being mobilized and trained in the Visayan Islands and Mindanao. These were, specifically: The 61st Division (Panay); 71st Division (Negros); 81st Division (Cebu-Bohol); 91st Division (Leyte-Samar); and the 101st Division (Mindanao). (All designations herein refer to the Philippine Army. Philippine Constabulary and U. S. Army designations will be particularized.)

At the outbreak of war, this establishment became the Visayas-Mindanao Force, with headquarters at Cebu, except that the 71st and 91st Divisions, ear-marked in the original plan for assignment to the South Luzon Force, were sent (less the 73d Infantry and 93d Infantry) into Luzon during December 1941, and so lost to us.

Regiments bearing the numeral "1" as part of their numerical designations constituted the first wave of the mobilization, and it was these regiments which were found already in existence and under training, e.g., the 61st Infantry, the 71st Field Artillery, etc. The second wave, regiments bearing the number "2", e.g., 82d Infantry, were called up very shortly before December 7th, and the third wave, such as the 73d Infantry and the 93d Infantry were mobilized immediately after. Thus, only the first increment had any preliminary training, and the others had to get their training as best they could, under the confused conditions of the early days of the war.

It is interesting to note that although each division had an artillery regiment, these regiments all fought as infantry. We had exactly five guns, 2.95-inch mountain howitzers, with a total of 1,300 rounds of ammunition. It is understood that more guns were forwarded to us from Manila but the ship was sunk by enemy air action. After the surrender the Japs demanded to know where our guns were, and it was difficult to convince them that our so-called artillery regiments were in truth and fact nothing but infantry.

A survey of the situation was made immediately after opening headquarters. The troops were found quartered by battalions in permanent barracks scattered throughout the islands. The plan was to call up the regiments as units, give them company and battalion training, and then assemble them in temporary camps for regimental and divisional training. The permanent camps thus vacated were to be used for housing the successive increments, as the various regiments were called up in turn. Actually, units were sent directly to beach defense positions upon receipt of the news of Pearl Harbor.

The medical service was being handled by the medical detachments of the various units, with hospitalization being furnished by local hospitals on a contract basis. There were quite a number of hospitals, including two military, three or four civilian government, and various missionary, industrial-company and individually-owned institutions. The largest were the Southern Islands Hospital at Cebu, an efficient institution operated by the national government for the benefit of the civilian population of the Visayas and Mindanao, and the Zamboanga General Hospital, a very well-run missionary institution.

A noteworthy hospital, of which much more later, was that of the North Negros Sugar Company at Manapla, Negros Occidentale. It was maintained by the Company primarily for the benefit of its employees, but it also accepted private patients.

One of the military institutions was the station hospital, Lahug Airfield, Cebu. The first enemy air-raid on December 13th, 1941, wrecked the hangars. The field was then expanded, to give more area for cover and camouflage, and was served by improvised medical groups in camouflaged locations, while the personnel of the hospital were transformed into a semi-mobile unit and moved to a nunnery in the outskirts of Cebu City. Later the unit was moved to a site in the hills west of the city, where it rendered excellent service during the Japanese invasion, and the severe fighting which accompanied especially the assault on Cebu City.

The other military hospital was the Station Hospital at Camp Luna, Parang, serving the regular Philippine Army personnel stationed at that camp. There was also a small dispensary serving the garrison stationed at Zamboanga.

Even before the outbreak of war, plans had been made to establish a medical base at Cebu, utilizing the facilities and personnel of the Southern Islands Hospital as a nucleus, and establishing another General Hospital at Talisay, a couple of miles south of Cebu, where there is a practically inexhaustible supply of excellent water. This was to have been the region for definitive treatment. We were given to understand that the equipment of one General Hospital would be forwarded to us from Manila, but unfortunately, it was lost in the sinking of the "Corregidor" in Manila Bay.

Evacuation was from the first a problem to which no really satisfactory solution was ever found. For water transportation, we had to rely on the pooled tonnage of the V.M.F., transporting our patients as ordinary passengers on ordinary unmarked ships carrying troops, ammunition and supplies. There were no hospital ships; and if there had been, it is quite possible that they might have been taken from us, repainted, and used for general service -- the need was that pressing. Ultimately, of course, the V.M.F. had no ships.

For land transportation, there were only a half dozen ambulances in the entire Southern Islands. The 81st Division had, if memory serves, two regulation Philippine Army ambulances, and the 101st Division had one. The Southern Islands Hospital had a civilian ambulance suitable only for city work, which was left in Cebu, where indeed it was needed. Information is that it was very useful during the invasion. The North Negros Sugar Company had a good ambulance which was taken to Impalutao, and formed the mainstay of our evacuation there.

Personnel was perhaps our first problem. We had authority to recruit and induct enlisted personnel, but not commissioned. Theoretically, doctors, nurses, etc., were still required to submit formal application, with proof of qualification, two certificates of character, physical examination, etc. They were supposed to be

commissioned in the Philippine Army and called to active duty. Then upon authority from Headquarters, USAFFE (at Manila, but soon moved to Corregidor), the proper officer inducted them into the service of the United States.

The dental service was most efficiently managed and equipment was secured for every Dental officer recruited and assigned to duty. This in itself was no small achievement, and the Dental service rendered was equally satisfactory.

One duty, assigned to the Force Surgeon at the outset, was to coordinate and supervise the arrangements of the Red Cross for the evacuation and treatment of civilian casualties in the event of air raids. The arrangements made were found to function satisfactorily when the anticipated raids took place. However, civilian casualties were fewer than expected, for the Japs did confine themselves to military objectives.

The islands were combed for medical supplies. In Cebu there were two or three wholesale drug houses, where some supplies were found. Retail drugstores everywhere furnished some, but depressingly little in the total. A large steamer, the John Lykes, was lying in harbor at Cebu on December 7th with a general cargo for Shanghai. This proved a gold mine to the Force, for many very useful articles were found on her, varying from a large amount of food and medical supplies to half a dozen motorcycles for the Shanghai Police Force. Later on, an additional and very welcome supply of several tens of thousands of quinine tablets was found in the Koranadal Valley Project. But the most important source proved to be the hospital of the North Negros Sugar Company, where the semi-annual requisition had just been received. This store became the mainstay of our supply. One or two large consignments of quinine were also flown in, later on, from Australia, but these were of no benefit to the V.M. Force, for they had to be forwarded to Bataan, where the need for them was apparently even greater than ours.

The enemy attack on Davao seemed at first to indicate that our plan was basically sound, but as the War progressed the Japanese Air Force demonstrated that it had complete mastery of the air, and that water-borne inter-island communication and evacuation would be denied to us, except occasionally, by stealth and under cover of night. Ship after ship was bombed and sunk, until at the last we had none at all. If their Air Force missed anything, their Navy completed the job. Toward the end we were isolated on our various islands.

Medical Department records constituted a major problem. The organization of the Philippine Army routed all S & W records, together with all personnel records, through the Office of the

Adjutant General. However, in December 1944, an order from Headquarters, USAFFE, directed that the U. S. Army procedure be adopted, as of January 1st, 1942. It was impossible to comply with this order at the time. The order itself was not received until after that date. The necessary forms, which differ somewhat from the Philippine Army forms, were not available, and there was difficulty in having them printed, the only printing office being a small one in Cebu, already overburdened with work. Transportation from Cebu to Mindanao was already becoming precarious, and one consignment of these papers was lost on a ship sunk by enemy action. Finally, there was neither personnel, even untrained, nor equipment, in the office of the Force Surgeon, to handle the records. However, the question becomes merely an academic one in view of the loss of all records at the time of surrender.

In spite of all difficulties, the medical service of the Visayas-Mindanao Force was functioning, and, from the date of opening of the Force Hospital at Impalutao, professional treatment of a standard equal to the best metropolitan hospitals was furnished.

Our sanitation, while far from perfect, was holding intestinal disease well below the epidemic point, though the threat remained ever-present. True dysentery, both amebic and bacillary, was continually being found, but never to a paralyzing extent. Malaria was more serious. It was present everywhere, with certain areas where it threatened to prevent all military activity. There was one bad area in southern Lanao, extending south almost to Cotabato. There was another in southern Agusan Valley, which handicapped severely the operations from the north against Davao. But the worst region was the so-called Digos front, where the 101st Division held for months the line of a small stream running south from Mt. Apo. This stream was exactly the type of breeding ground suited to *Anopheles Minimus*, the Philippine vector of malaria, and because it was under observation and fire by the Japanese, malaria-control work was most difficult. As a result, surveys showed that the battalions holding these lines were practically 100% infected, while their non-effective rates at times mounted to slightly over 50%. Finally the stream was cleared and straightened, other measures adopted, and the malaria rate began to show a drop. However, about this time the Jap landing at Cotabato compelled the division to withdraw.

One measure adopted was to furnish every man with a small mosquito bar fitting over the head and neck, to protect him both while sleeping and while on sentry-duty in the foxholes and other posts along the front line. These mosquito bars were manufactured by the Force Quartermaster Service, using civilian labor, and by the Red Cross, using volunteer Filipino ladies. The material was any thin cotton goods that could be obtained, and varied from rather satisfactory cheesecloth to some fairly heavy stuff.

An order was issued that quinine would not be used for prophylaxis, but would be reserved for treatment only. This was done because a survey of the supply available showed that it was sufficient for prophylaxis for the entire V.M.F. for a period of no more than a week. Medical officers were instructed to conserve the drug, and to discontinue its use as soon as the patient was able to return to duty, making no attempt to obtain complete blood sterilization.

The Japanese landing on the north shore in the Cagayan sector, quickly followed by the landing at Cotabato, with their rapid advance both northward and eastward from that city, showed that the end was not far off. Plans were made to move the nucleus of the Impalutao hospital to a location in a forest near Lake Pinamaloy, about fifty to seventy-five kilometers south of Malaybalay and thence eastward into the unknown, unmapped hill country, with a view to supporting a last-ditch defense, and possibly even a guerrilla-type war, but were rendered useless by the order to surrender. The Visayas-Mindanao Force surrendered on May 10th, 1942.

After surrender, the remnants of the Force, to a total of about 6,000, were concentrated near Malaybalay, Bukidnon, in what had been the Divisional Camp of the 101st Division. Three dispensaries were set up, one for the American troops, one for the 101st Division, and one for the 102d Division, plus a few elements from the 81st Division, Lanao, and the Agusan Valley force. The hospital at Impalutao continued to function as an independent or semi-independent command. The distance between was about twenty-three kilometers and the Japs limited transportation, even by ambulance, and discouraged inter-communication.

The emphasis in the Malaybalay camp was placed on sanitation, as dysentery and diarrhea showed a tendency to increase. The Japanese separated Filipinos and Americans, and finally interdicted all communication between them. This was the situation when the senior officers, from the rank of colonel up, with a few orderlies, were sent on September 6th, 1942, to Manila, and later to Formosa and Manchuria.

10. THE ACTIVITIES OF THE DENTAL CORPS.

A detailed description of activities of Dental officers stationed at various posts and stations in the Philippines will not be attempted in this report.

Dental officers served in a variety of capacities, both administratively and professionally. In the Medical Center in Manila and the General Hospitals on Bataan and Corregidor, Dental surgeons played a prominent part in the work of operating teams dealing with wounds of the head and neck. Excellent results were obtained, particularly in wounds involving the maxillofacial region.

where Dental surgeons were chiefly responsible for the proper reparative procedures. Moreover, all usual standard dental procedures were performed in the hospitals in the rear areas as well as in the advanced installations toward the front. Dental surgeons served in a capacity such as brigade surgeons, collecting company commanders, ward surgeons, motor pool officers, evacuation, control and supply officers and in other capacities. In some prisoner-of-war camps, limited dental equipment was available and Dental surgeons rendered extremely valuable services to the prisoners of war. Unfortunately, in many camps they were not provided with material nor permitted to practice their profession. In consideration of the varied functions performed by the Dental Corps, it is a source of great pleasure to the Surgeon of the Forces in the Philippines to acknowledge in this brief report the superior performance of duty by this group.

11. THE ACTIVITIES OF THE VETERINARY CORPS.

No attempt will be made to give a detailed account of the varied duties performed by the officers and men of the Veterinary Corps. Instead, a brief summary of the activity of veterinary personnel in the procurement, slaughter and distribution of fresh meat to the troops in the field will be considered.

The limited supply of rations available on Bataan and Corregidor made mandatory the augmenting of the meager resources of the Army. To accomplish this a survey of all possible food sources in Bataan was made and it was discovered that the availability of carabao and to a much lesser extent, horses, mules and hogs, would provide a substantial addition to basic rations. This project was handled exclusively by personnel of the Veterinary Corps.

Early in January and continuing until April 8th, 1942, somewhat over 2,800 carabao and approximately 600 other animals were procured, slaughtered and distributed to the Army. In some instances, by the use of civilian laborers, carabao found in front of our advanced elements were successfully herded through the lines and eventually brought to the field abattoir.

These abattoirs consisted of bridges or platforms built across swiftly flowing mountain streams. To prevent contamination of the stream all inedible offal and refuse was buried in deep pits. The availability of ample fresh water permitted thorough cleansing of the killing floor so that a maximum degree of sanitation was maintained. Immediately upon completion of butchering, carcasses were transported by truck to Cabcaben and thence to cold storage plant on Corregidor. Other deliveries were made direct to the various Quartermaster dumps where front-line organizations called to collect the portions assigned to them. At least 100 carcasses were stored in the refrigeration plant of the submarine tender *Canopus*, which was stationed in Mariveles Harbor. Some 300 quarters of meat were lost on Corregidor

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as a result of the bombing of the cold storage plant. In addition to the slaughter of animals, previously described, front-line units on their own initiative secured and slaughtered approximately 1,200 carabao.

As a result of these activities some two million pounds of fresh meat were delivered to troops in the field and 3/4 million pounds of edible offal were delivered to refugee camps in Bataan. Needless to say, the augmentation of the basic diet of rice by fresh meat served to stimulate the morale of the troops on Bataan and Corregidor and assisted materially in sustaining their endurance to resist the enemy for a few additional weeks.

Shortly before the close of the Philippine Campaign, plans had been set in operation to tap the resources of Manila Bay, which teem with fish. Unfortunately, the final Japanese drive was successful before any great quantity of fish could be secured.

Veterinary personnel, both officers and men, of the American and Philippine Armies rendered invaluable service in varied capacities during the campaign and throughout the long period of incarceration in the various prison camps. Veterinary officers commanded line troops at the front. They carried on all their normal functions, such as the care and evacuation of animals, the operations of a veterinary hospital, inspection of food and also served in the capacity of medical inspectors, mess officers, supply officers, etc. They suffered a high casualty rate. Over 40% of the veterinary officers in the Philippines at the outbreak of the War lost their lives. The loyalty and performance of duty by the members of the Veterinary service, Philippine Army, was similarly on a high plane and they likewise suffered heavy losses. The Surgeon, Philippine Department, takes great pride in the outstanding accomplishments of this group, officers and men, who lived up to the highest traditions of the Medical Department of the United States Army.

12. ARMY NURSE CORPS ACTIVITIES.

It is not intended at this time to prepare a detailed statistical report on nursing activities, but rather to acknowledge briefly the splendid contributions of the Nurse Corps of the armed services during the defense of the Philippines and the long period of imprisonment following the capitulation of our forces.

With the abrupt outbreak of War in the Far East, our Nurse Corps found itself in the unique situation of being at the battle front attending casualties on the first day of the War. The record of devotion to duty and results obtained amply show that its adjustment to a most difficult situation was superb.

A recapitulation of the splendid services rendered in Manila, in the jungles of Bataan, on Corregidor, and dur-

period of imprisonment, is not necessary as they are already well known to the people of the United States.

Suffice it to say that the members of the Army Nurse Corps exemplified its highest ideals and traditions in a manner that shall always be remembered by our citizens with great pride.

13. MEDICAL ACTIVITIES, JAPANESE PRISONER OF WAR CAMPS.

The purpose of this report is not to give an account of the personal experiences of the writer but rather to present a general picture of the conditions that existed in the various prison camps in which he was interned during the Japanese occupation of the Philippine Islands and until the time of the final capitulation of Japan, August 15, 1945. Every effort will be made to make this report as impersonal as possible, but it is not intended that the reader should get the impression that any part thereof is based on hearsay. Only circumstances encountered at the various camps and places at which the writer was personally present will be described.

The following is an outline showing the different places and times as accurately as can be remembered that the writer was present at each.

- A. The March from Bataan - April 9, 1942 to April 20, 1942
- B. Camp O'Donnell - April 20, 1942 to June 1, 1942
- C. Camp #3 Cabanatuan - June 7, 1942 to October 31, 1942
- D. Camp #1 Cabanatuan - October 31, 1942 to October 19, 1944
- E. Bilibid Prison - October 19, 1944 to December 13, 1944
- F. The Death Cruise from Manila to Japan - December 13, 1944 to January 30, 1945.
- G. Shirakawa
- H. Fukuoka Camp #1, Japan - January 31, 1945 to April 25, 1945
- I. Jinsen, Korea - April 27, 1945 to September 8, 1945

A. The March from Bataan. To grasp the impact with which this ordeal struck at the defeated and demoralized remnants of the Fil-American Army of Bataan, it is necessary first to consider the extremely poor physical state of the average man participating in this march. As has been pointed out by various others reporting on the final pre-surrender phase of Bataan, our defeat was primarily one of attrition. True enough, we were struck by an overwhelming superiority of military force in the final Japanese drive, but it was common knowledge to everyone, from the front-line private to the highest commander in Bataan, that we were doomed to collapse as a military force within only a few more days even without the final blow by which we were so completely and thoroughly crushed. Almost every man on Bataan was not only thin and weak from starvation, but had been further depleted physically from the effects of

malaria and dysentery or common diarrhea. In addition to these supposedly well men, literally thousands of the sick from the various front-line medical installations, were thrown into this line of march, including the Philippine Army clearing stations. Many thousands of sick from General Hospital Number 2 were also forced to hobble from their sick beds and fall into this seemingly never-ending line of march.

Second, some idea should be given of the thoroughness with which the Japanese went about their planned procedure of disorganizing and further demoralizing this already defeated army. As far as could be determined by the writer, every semblance of command and organization was wiped out from the beginning. The Commanding General of my sector after being kicked in the face and beaten by a Japanese noncom spent his first night as a Japanese prisoner sitting in the jungles of Bataan with his hands bound so tightly behind him that he narrowly escaped losing them from gangrene. Every other officer of his staff spent the same night under identical circumstances. The results of this complete disorganization may seem insignificant in a report of this nature but as a matter of fact, it proved later to have a far more damaging effect than could possibly have been imagined by anyone who did not have the misfortune to witness the spectacle of this disorganized and beaten army being herded like cattle down the route of march, by Japanese sentries who jabbered their commands in a language that was entirely foreign and who enforced them all too frequently with the butt of a rifle, a bayonet, a bullet, or a club.

A third factor was the utter lack of, and refusal on the part of the Japanese to provide, any facilities for treating the sick or to provide for their transportation when they became too weak to carry on the march and staggered from the line to a fate that only those that followed can confirm. However, from the evidence left by those who had marched ahead, it placed no strain upon the imagination to form one's own conclusion.

The first general concentration of all the scattered units from Bataan took place at Balanga along the south bank of the Pantingan River. Units from all over the Bataan Peninsula poured into this concentration area for days after the capitulation. No effort was made by the Japanese to keep the various units intact for administrative control. They were merely herded into this general area and surrounded by a cordon of armed Jap guards. No facilities were established for messing the prisoners, thus corralled, and no food was anywhere in evidence. Likewise, there was no attempt being made on the part of the Japanese to make any provision for the care of the sick. Men were dying all over the area without so much as an expression of concern by the Japanese. It appeared that we were on our own so far as food and medical care was concerned but we were restricted to a given area and were not permitted to venture forth in search of either medicine or food. It finally developed that a

group of Medical officers did set up a makeshift aid station where individuals, who had brought on their persons small portions of drugs, could turn them in to the doctors who would in turn dispense them to the sick. The amounts were trivial compared to the magnitude of our needs, but it was the only course open to our Medical officers to render any medical service to our sick.

No provisions for sanitary disposal of human waste were made and with literally tens of thousands of men occupying for a few days and passing through this limited area, it became in short order a quagmire of filth and corruption. The dead were not buried and were, apparently purposefully, left to decompose and serve as breeding places for maggots right before the very eyes of those who were to follow. The feeling of horror and revulsion experienced by the writer upon witnessing this first demonstration of mass mistreatment and the general apathy on the part of the Japanese authorities toward it exceeds the power of expression.

It was from Balanga that details were formed and fed into the line of march which kept the road north to San Fernando packed with stumbling, staggering, sick and exhausted human beings for the next ten days. Some groups were forced to make the entire march in a single nonstop ordeal except for an occasional ten to fifteen minute halt. Other groups, as did my own, made overnight stops at Orani and Lubao. Conditions at these two camps will be described in a subsequent paragraph, but first the process of getting work details out of Balanga will be described.

The Japanese guards would come into the concentration area at Balanga and without rhyme or reason round up a large group, drive them out onto the sandy beach of the river, and leave them standing in the burning sun from six to eight hours prior to starting them on the march. During this time they would order each man to place all his personal belongings by his side on the ground and then Japanese soldiers would pass down the line between each two rows of prisoners and take whatever items struck their fancy. In this manner practically every watch, fountain pen, and piece of jewelry was systematically stolen, as well as any currency that the individual might have in his possession. By the time that each group was allowed to start on the next leg of the march, many would already be falling out from the exhausting effect of merely standing for several hours unprotected from the sun. Only a trickle of water was running from an artesian well in this area and many men started out with no water in their canteens and many had been relieved of their canteens by Jap soldiers before reaching this concentration area. It was in this state of almost complete exhaustion that each successive group would start out and as a result many would be staggering and falling from exhaustion before the column was even under way. Had the Japs furnished transportation or made any effort to assist us in taking care of our sick, hundreds of men who fell out from exhaustion and sickness and

whose bodies were still strewn along the road when the march was completed could have been saved.

The camp at Orani was a fenced area, much smaller than the original one at Balanga. Men were marched into this area at the end of the day in close formation. When the area was filled to capacity with standing men, the order was given to stop for the night. This time there was not sufficient room even to stretch out on the ground. Again there was no food and no medicine and no sanitary facilities and again the same failure to dispose of the dead from preceding groups. There was no water available in this compound but in passing by an artesian well on the street the following morning many of the men were able at least to partially fill their canteens.

The next leg of the march started from Orani at sunup and ended at Lubao that night at about 10:30. Several halts were made en route that day and these were always along open stretches of the road where there was no opportunity for protection from the sun. On two occasions halts were made in the vicinity of artesian wells and although water was plentiful, halts would not last long enough for more than a small percent of the column to obtain water. Several officers in my group were without canteens and had been cooperatively carrying a five-gallon bucket picked up in Balanga. We were able on both these occasions to get this filled and in turn were able to fill canteens for quite a few others, but this indeed did not offer much relief in proportion to the need for water. As a result, men were falling out all along the way to add to the already outrageous number of dead that lined the road.

By the time the column reached Iyac Junction, men were becoming desperate because of thirst and hunger and during a halt in this vicinity, many men left the road and started across an open area toward a field of sugar cane and in spite of rifle fire from the Jap sentries at the rear of the column, proceeded to break down stalks of sugar cane and return with them to the column.

It was a common sight from that point on to see men walking along stripping the bark from a stalk of sugar cane with their teeth and chewing the pulp to extract its sustaining juice--a primitive way of obtaining both food and water, and although it may sound far-fetched to the inexperienced, there is no doubt in the mind of this writer that this simple expedient saved the lives of many men on that day's march.

The compound at Lubao was an empty sugar warehouse which was surrounded by a small fenced-in area. Inside this compound there was a large artesian well and for the first time men were allowed to line up and wait their turn until everyone had obtained water. This line ran continuously day and night for the four days that we were

held in this compound. There were still no provisions for feeding and no medicines available through the Japanese. The only food that men in this compound received was what they had been able to procure from native Filipinos who took their chances with the Jap guards along the route of march to toss an occasional man a "handout."

The next day, the Japanese, through an American interpreter, ordered everyone who had a personal supply of medicine to turn it in to another improvised aid station then being operated by another group of American Medical officers. The same situation resulted that had been experienced at Balanga--only a handful of drugs for the thousands of sick who needed treatment.

The sanitary condition of this compound was the worst yet encountered. Excretions from men suffering from dysentery literally covered the area. Corpses of several dead had been thrown along the fence that enclosed the area and were in an advanced state of decomposition. However, most of the dead from this compound were carried across the road and thrown in a field of cogon grass.

Many men had become too ill to stand in line for water at this stop. One of the few things that we as Medical officers were able to do for our sick was to get them water from the well in the five-gallon bucket and fill their canteens for them.

On our last morning at Lubao a few boxes of cooked rice were brought into the compound and those who were fortunate enough to be served before the supply was exhausted were given a small cupful of cooked rice before starting on the final leg of the march which ended at San Fernando, Pampanga. The column was again formed on the road and given the usual several hours of sun treatment and official "shake-down" before proceeding. This day ended at sundown when we finally were marched into the grounds of what had once functioned as a cockfighting arena. Casualties were heavy during this day's march and to give some idea of what a narrow margin separated those that were able to make it from those who were not, I cite the following example: A Lt. Colonel of Infantry who was with me in Lubao came with some adhesive tape and had me tape some blisters on his feet. He appeared in a much better state of nutrition than the average and was apparently not acutely ill at the time. I became separated from him in the column of march that day and it was the last time I ever saw him. He never reached San Fernando and I was told by others who knew him, who were behind me in the line of march, that they had seen his body lying along the side of the road only a few kilometers short of San Fernando. Perhaps a drink of water, some salt, and a bite of rice would have saved his life, but such were our conquerors that these simple mercies were not provided.

At San Fernando the first semblance of any organized effort on the part of the Japanese to provide food in any quantity was seen. Here they had set up a battery of large cauldrons and were furnishing a limited quantity of rice which was cooked and served twice a day. Each man here received a cup of cooked rice night and morning. There was also a spigot one-half inch in diameter where men were able to form in a continuous line to fill canteens with water. This compound must have had an average daily population of some 6,000 to 10,000 men.

The usual aid station without medical supplies was set up in the cockpit and although they gave us no medicines, the Japs, for some reason, allowed the Philippine Red Cross to make a sort of limeade and send several bucketsful of it into the camp for our seriously ill. It was a small gesture, but the first thing that had happened that gave any hope that maybe once we reached our final destination things might be better.

Sanitation in this compound was also somewhat improved. Large slit trenches had been dug for use as latrines and although they were teeming with maggots and flies were swarming everywhere, at least it tended to lessen the amount of surface contamination of the ground upon which men had to sleep. Moreover, the dead here were buried.

A Jap sentry on perimeter guard duty at this stop was operating a racket by cutting sugar cane from an adjoining field and selling it at P2.00 a stalk to anyone who had been smart enough to get this far without losing the currency in a shakedown. He would have had a flourishing business had more of us had any money.

The average time spent by the different groups at San Fernando ranged from two to four days and from this point on to Capis, a town about six miles from Camp O'Donnell, the trip was made by train, 100 men to a small-sized boxcar — not a pleasant nor a comfortable way to travel but certainly an improvement over what had been the case from Bataan to San Fernando.

The following is a summary of the different types of atrocities that were actually witnessed by the writer during this march:

- (1) Kicking with a heavily booted foot on the head and in the face.
- (2) Beatings with heavy club (one fatality seen).
- (3) Tying hands behind back for period of fifteen hours with rope so tight that circulation was almost completely cut off (large group).
- (4) Killing by bayonet.
- (5) Killing by shooting with a rifle.
- (6) Jabbing by bayonet inflicting wounds not fatal.

- (7) Shooting with rifle causing wounds not immediately fatal.
- (8) Refusal to provide water, food and medicine, which resulted in an unknown number of deaths.

In closing this report covering the march from Bataan, I would like to pay tribute to the loyalty of the majority of the Filipinos encountered along the route of march. They were ready and anxious to help out in whatever small way they could, but the order of the day seemed to be that they were not to approach the road as the column was passing by. Some did so, apparently at some risk to their own personal safety. Others would stand at a safe distance and throw sugar cakes and packages of cooked rice and even some packages containing fried chicken into the column as it passed. Only a gesture but one that conveyed a feeling of loyalty that is undoubtedly fixed in the mind of almost every man who made the march.

B. Camp O'Donnell — The First Permanent Camp. This camp, which is located some six miles to the west of Capis, in the province of Tarlac, was in the process of being constructed when the War started. Many of the buildings in the main camp and most of the hospital buildings had not been completed at the outbreak of war. Roofs had not been finished and water pipes had not been connected. There were no plumbing fixtures in the buildings and septic tanks were only partially constructed and were not in operation. The buildings in the main camp were constructed of native materials with sawali walls and nipa roofs. Floors were of strip bamboo, as is customary in the native barracks, and were double-decked, with only a passageway down the center to allow for entrance into the different bays. The hospital buildings were of native lumber with floors and walls of wood but with roofs made from cogon grass. The camp was situated in rather barren country, except for a heavy growth of cogon grass, and was some two or three kilometers east of the King River.

Into this camp came the entire army from Bataan. The exact figures were never made known to me but it is estimated that there were around 10,000 to 12,000 Americans and some 50,000 Filipinos originally concentrated in this camp. It was divided into an American section and a Filipino section. From that time on, we had no contact with the Filipinos.

By the time that I arrived at this camp steps had already been taken by the senior American Medical officer present to set up a hospital in the American section and all medical personnel who were still able to work were placed on duty there as fast as they arrived in camp. The hospital served mainly as a place to segregate the more seriously ill from those who were still able to wait upon themselves. Hundreds of cases of malaria and dysentery remained scattered throughout the camp, for many who had had a

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glimpse of conditions that existed around the hospital area preferred to take their chances on the outside rather than run the risk of the added exposure that resulted from this concentration of sick in the hospital area. Men were horrified to see conditions that existed in what was promptly dubbed "St. Peter's Ward." It was the ward where the dysentery cases were moved after all hope for their recovery was lost. I shall not attempt a description of this ward.

At the beginning, the hospital consisted of three buildings with wooden floors and two other buildings in which the flooring had not been laid. Within a few days the Engineer Corps secured enough scrap lumber to put flooring in the other two buildings and these constituted the hospital for the American section of camp throughout our imprisonment there.

At no time was any equipment furnished for the care of the sick. We had five empty buildings without beds or even blankets to put down upon the floor. Consequently, patients were simply placed in rows along the wall upon the bare floor. Many of the more severe dysentery cases had soiled their clothing so badly that they simply took it off and abandoned it, preferring to lie nude upon the bare floor than continue to wear their filthy clothing. No facilities for washing clothing or for bathing patients were available. No water for any purpose except drinking was available in camp. Water for cooking the rice had to be carried from the river in five-gallon buckets. Floors of the wards could not be mopped for lack of water. With only two or three small spigots for the entire American section, it became a major problem to provide water for the patients that were too weak to stand in line.

The mess for the hospital area was located in a building similar to the barracks building except that it had a dirt floor. The building was not screened and the only facilities furnished for operating the mess were two large cauldrons for cooking the rice and some old rusty steel drums with one end cut out for storing the cooked rice until feeding time. Several cookings were always required to provide sufficient rice for the number being fed from each mess. There were no covers for these containers and the Japanese refused even to let us use the empty rice sacks to make covers for these containers.

The food consisted of polished rice (about 300 grams per day) and a thin green soup made from some native plant which looked very much like sea weed. Occasionally gourds would be substituted for greens in the soup and towards the end of our stay at this camp we were receiving a small amount of camotes and mongo beans. On two or three occasions, carabao were slaughtered by our own Veterinary personnel, but the quantity of meat received was insignificant.

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If the individual found a piece of meat one cm. square in his soup, he considered his luck better than average.

The medicines furnished by the Japanese at this camp consisted of a mere handful of quinine and some miscellaneous patent medicines commonly seen on the drug shelves of the native botica. When prorated to the ward surgeons, the quinine would not have averaged more than five grains for each patient then suffering from malaria. This brought up the question of how to use this precious, life-saving drug for the greatest good. It was finally distributed to each of the ward surgeons based upon the number of malaria patients for which he was responsible and the actual decision on its use, from that point on, was left up to him. It was the opinion of most of the Medical officers present that the drug should be given to selected cases, or cases chosen by lottery, in sufficient doses to bring about a remission, rather than waste the drug by giving each individual a single non-effective dose. This latter procedure was followed by most of the ward surgeons. The only drug ever furnished for dysentery at Camp O'Donnell was a few tubes of anti-dysenteric serum. The effect of its use was a moot question, but it was used until the supply was exhausted. In addition to the medicines furnished by the Japanese, a few drugs were smuggled into camp by details working on the outside but they were, in general, given only to patients specified by the donor.

Word finally got around camp that a tea made from the leaf of the guava tree was used effectively by the natives in treating dysentery and permission was granted by the Japanese for us to send out details daily to pick these leaves. The tea was made in fifty-gallon steel drums and was served to anyone desiring to try it. So far as could be determined by the ward surgeons, its use had no effect upon the course of the dysentery. It probably was worthwhile from the standpoint of psychotherapy.

Sanitation in this camp was bad from the beginning. Pit latrines served as excellent breeding places for flies. The blue-bottle fly of the Philippines is a terrific breeder and within a short time flies were so prevalent that it became a physical impossibility to prevent food contamination in the mess hall and even after food was served the individual, it was necessary for him to keep one hand in motion over the mess kit to prevent flies from lighting upon it. There were no facilities for the proper washing and sterilizing of mess kits. Consequently, dysentery remained a serious menace throughout.

Personal hygiene was nonexistent at O'Donnell during our entire period there—no water for bathing or for washing hands and face, no soap, no razors, no toothbrushes, no tooth powder. Only those who violated Japanese regulations in taking water for

unauthorized uses had even so much as a sponge bath during those six weeks. Patients in the dysentery ward became incontinent and soiled themselves and their surroundings. There was no water, no disinfectant, not even a mop with which to clean the floor and as a result, the unconscious and seriously ill were, to put it bluntly, simply wallowing in their own filth. The average American, I have found, is pretty crafty when placed on his own resources, but trying to find an adequate substitute for water in keeping himself clean seemed to exceed his ability to improvise. It was indeed an unhygienic sight to behold.

The morbidity at this camp was extremely high. Almost every man in camp was suffering from a deficiency disease. Nutritional edema was common and pellagra was just beginning to make its first appearance. Edema was severe and in many cases generalized. It was not uncommon to see a patient whose feet and legs were so swollen that he could scarcely walk and in the severe cases, the scrotum was so large he could not button his clothing. Many of these progressed so far that the serous cavities became filled with free fluid before the patient died. Malaria and dysentery were still taking their daily toll of about twenty-five to thirty Americans and several hundred Filipinos. Diphtheria broke out and accounted for quite a few deaths at this camp but did its greatest damage when carried over into #1 Camp at Cabanatuan, where it resulted in 123 deaths before the Japs would bring antidiphtheritic serum into camp. The total mortality from all causes at O'Donnell during the less than two months that this group of American prisoners was held there was between 1,500 and 1,600. The exact figures will be available when all recovered documents are released.

In the Filipino section of camp they were burying from 300 to 500 men a day when the American section was moved out. I learned later from some of the American Medical officers who remained at O'Donnell until that camp was finally closed that a total of some 27,000 Filipinos were buried there.

The Americans in this camp, except for about 600 of the most seriously ill patients in the hospital, were moved to Camp #1 at Cabanatuan, June 1st and 2nd. Two or three weeks prior to this the hospital buildings had become filled to capacity and patients were being placed on the ground beneath the two main ward buildings. Almost as many patients were on the outside as were in the two main wards, but fortunately the rains did not start until a short time before we were moved.

C. Camp #3, Cabanatuan. The American prisoners who were still able to walk from O'Donnell to Capas were moved by train (100 men to a boxcar) from Capas to Cabanatuan, June 1 and 2, 1942. This trip lasted from sunup until sundown and because of the extreme heat

and absolute lack of ventilation, was most exhausting. Those who were not able to walk to Capas were moved the following day by truck. The writer came with the first contingent by train and on June 2nd arrived at Camp #1 where he spent only five days before being transferred as Camp Surgeon to Camp #3. He was later moved back to Camp #1 after #3 was closed but conditions at #1 will not be discussed until a later part of this report.

Camp #3 was another of the Philippine Army camps constructed of the same materials as Camp O'Donnell and similar in every respect except that there were no hospital buildings. It was here that most of the prisoners captured on Corregidor had been concentrated and therefore there were a large number of Navy and Marine personnel in addition to the Army personnel that were captured on Corregidor.

It was striking to see the difference in the physical state of these men as compared to those who had come up from Bataan. The former were in a much better state of nutrition and most of them had not had malaria prior to coming to this camp. They had, however, been subjected to such unsanitary conditions after the capitulation that dysentery became prevalent among them and many developed tropical ulcers on the legs. Among them were some who had come from Bataan and in addition several hundred from O'Donnell were finally moved up from Camp #1. Disregarding these last two groups, however, the general physical condition of the 6,000 men at this camp was considerably better than that of those at O'Donnell.

About June 7, 1942, a group of American Medical officers were sent from Camp #1 to Camp #3 to establish a dispensary service for this camp. When we arrived we found only one American Medical officer there and he was without any facilities for treating the sick. Three small shacks had been designated as an isolation hospital, but medicines and supplies were entirely lacking.

The Japanese doctor at this camp was consulted immediately about medical supplies, equipment and special food for the sick. He spoke good English and seemed to be a much higher type than any Jap previously encountered. He promised to see what he could do. In the meantime we went ahead organizing a medical service for the different groups and held a sick call for the purpose of making up a list of the number of cases of each disease present in camp. After a few days this list was presented to him and he in turn gave us our first issue of medical supplies for the camp, viz., a pound of cotton, six tablets of picric acid, a bottle of 100 coryza tablets, an eight-ounce bottle of what looked like an aqueous solution of mercurochrome and a small amount of boric-acid powder. With this we were expected to render whatever medical treatment would be required in a camp of 6,000 men.

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By this time the camp had been organized into three groups for administrative control. Two Medical officers were assigned to operate a dispensary for each group and three others were assigned to the isolation hospital. One Veterinary officer was assigned to each group for sanitary inspection, one Medical officer was kept as my adjutant at Headquarters, and two Dental officers were assigned to Headquarters dispensary. With this organizational setup, it was only a matter of getting supplies to afford the camp a decent medical service. There were no provisions for doing surgery at this camp, nor had there been at Camp O'Donnell, but surgery was not then a pressing problem. Our main worry was how to get food and medicines for treating malaria and dysentery. A daily interview was held with the Japanese doctor and he was kept constantly informed of our needs and of the number of sick in camp by disease classification, but it was not until around the 1st of August that we were able to get quinine and other needed drugs through his office.

In the meantime drugs were smuggled into camp through details working on the outside. One man who drove a truck for the Jap Quartermaster frequently made trips to Manila and through him we were able on one occasion to contact the Philippine Red Cross in Manila from whom we received a bottle of 5,000 sulfanilamide tablets, 3,000 five-grain tablets of quinine, 100 ampules of emetine, one bolt of gauze (100 yards), and a small amount of some proprietary dysentery remedy. This was smuggled in and delivered to my shack that night after dark. It was by this means that we were able to keep our malaria death rate so low at Camp #3. Until we finally received an adequate supply of quinine from the Japs, no attempt was made to give curative treatment but in order to stretch our quinine and make it go as far as possible, only three or four days' treatment would be given — enough to stop the chills and fever and keep the patient alive.

A campaign was started immediately to control fly breeding and a propaganda campaign inducing men to kill flies and thereby better their chances of survival was inaugurated. Posters and sketches demonstrating how dysentery was spread by flies were put up in conspicuous places throughout the camp. Talks by the Medical officers to group assemblies were given on the dangers of dysentery and how to combat its spread. Eventually a system of rewarding men who turned in a tin can full of dead flies was worked out. At this time the Japs had started giving an extra heavy ration for men going out on work details. This additional ration consisted of a flour biscuit for every man who did heavy labor. Through the Jap doctor we were able to get this extra biscuit ration for each man turning in a milk can full of dead flies. The result was amazing. I have burned up to as many as two rice sacks full of dead flies in a single day's catch. By using every device possible we were able to control dysentery somewhat better than we had been able to at Camp O'Donnell.

Tropical ulcers became so numerous that some method of treating them had to be worked out and after trying many different types of home-made ointments, we finally decided that one made by crushing tablets of sulfanilamide and incorporating this powder in a base of oleomargarine afforded the most satisfactory results. Many of these ulcers ultimately required skin grafting before they would heal.

The ration at Camp #3 consisted of polished rice (about 500 grams), with the usual green soup daily and a meat meal of one carabao for 6,000 men, about once a week. This varied considerably toward the last of October when we were given a few meals of Brahna beef taken by the Japs from a herd that ran wild near the camp.

About a month after we started our campaign for extra food for the seriously ill, the Japanese doctor authorized me to send a medical officer and two men with a truck to the market in Cabancutan to buy food for those among the sick who had money to pay for it. This truck went to market twice a week and although many men who needed extra food did not have the money with which to purchase it, the underground soon started bringing money into camp and in the end much good was accomplished for the camp as a whole. About a month later authority was granted to purchase extra food for the entire camp and the special medical purchases were cut off.

In spite of the extra food purchased outside the camp, the diet still remained grossly inadequate and by September hundreds of cases of pellagra and beriberi appeared, followed shortly by xerophthalmic and nutritional amblyopia. Corneal ulcerations and failing vision became commonplace and by the end of October when the camp was closed and consolidated with Camp #1 the nutritional state of this group was only slightly above that seen among those still surviving from the Bataan group.

Most of the malaria encountered at Camp #3 was of the estivo-autumnal variety, and although it may be true that this is the most fulminating and dangerous type of malarial infection, it was considered fortunate because of the circumstances under which we were working that we had this type rather than the tertian variety to deal with. Because of the extremely limited supply of quinine, we could not have treated repeated recurrences and it seemed to us that the chances for recurrences from the tertian strain were much greater than the E. A. strain and that it required more quinine to bring about a remission of the tertian strain than it did for E. A.

The sanitation at this camp was much better than at any place previously encountered. Box-type latrines were provided and there was an adequate supply of water in the camp to provide for moderately good personal hygiene. Details were taken daily to the

river for bathing and there was a liberal allowance of soap for bathing and washing clothing. One area of the camp was situated on low ground and became a quagmire during the rainy season, but we were soon able to dig our way out of the mud and establish fairly good drainage.

The barracks at this camp were built prior to the war to accommodate forty enlisted men of the Philippine Army. In these same buildings the Japanese required us to house from 100 to 120 men. This was not due to a shortage of buildings but to a general policy laid down by the Japanese authorities. There were always empty buildings in camp.

The hospital consisted of only three small buildings about fourteen feet square and was not equipped with beds or bunks. Patients had to lie on the bare floor but were given a blanket for padding. There was water for mopping the floors but it was difficult to accommodate the patients in the limited space while floors were allowed to dry. There was no place to do even emergency surgery, since it was contemplated that all surgical cases would be transferred by truck to Camp #1 for operation. This system worked fairly well but during a period when the river bridge between the two camps was out, we were unable to transfer a patient who was suffering from a large abdominal abscess and were forced to drain it under very crude surgical conditions. The patient died. One other case, an acute appendicitis, subsided without operation.

Diphtheria was not a serious problem at this camp. Only a few cases occurred and those after serum became available. No deaths from diphtheria occurred.

Morbidity was high towards the closing days of this camp because of deficiency diseases, dysentery and malaria, but the total of deaths from all causes was only sixty-nine over a period of five months, a figure which may seem high to one who has not worked under such circumstances as we were forced to work under, but a figure which caused us to feel not only thankful but even proud.

The only indictment against the Japanese doctor at this camp is in connection with the delay in issuing much-needed quinine for a period of ten days after it was known to be available in camp. Although he accomplished little and was slow in getting results, it is my opinion that he was making some effort, but was meeting opposition from higher Japanese authority. I cite the following in support of this belief: When beriberi became such a serious problem and this doctor insisted that he could not get brewers' yeast nor vitamin concentrates for us, it was suggested that he allow us to build some wooden vats and grow our own yeast. This authority was granted and he furnished us with a culture of brewers' yeast from the San Maguil

brewery in Manila and by using a culture media of boiled rice we set about growing brewers' yeast. Although we were never able to produce it in sufficient quantities to be of any great value in curing or preventing beriberi it was at least a sympathetic gesture on his part. A measure of this yeast culture was served to every man as he came through the feeding line to draw his rice. Many of them seemed to like it as a condiment over the rice and approved of it regardless of its value as a therapeutic agent.

There is a great deal more that should be written about conditions at this camp but this is not intended to be a detailed account. It is intended simply to give an impression of conditions that existed. All prisoners were moved out and the camp was closed October 31, 1943.

D. Camp #1, Cabanatuan. The medical cadre of 250 officers and men which arrived at Cabanatuan June 1st, 1942, had previously been engaged in the operation of General Hospital Number 2 in Bataan. A brief summary of some of their problems and activities during the developmental state of Camp #1 will be briefly described.

Prison Camp #1 was under construction in 1941 as a cantonment for the training of a Philippine Army Division and it had not been completed when war began. The barracks were built of bamboo and had sawali walls and cogon grass roofs. There were no doors. Each barracks had two tiers of ten bays with split bamboo floors. Each bay normally was planned to house two Filipino soldiers so the capacity of each barracks was forty men. From 100 to 120 American prisoners of war were crowded into these barracks. Small quarters built for four Filipino officers housed from fifteen to nineteen American officers and to as many as twenty-two enlisted men.

The camp was located on a treeless plain, a portion of which had been a former rice paddy. The ground sloped appreciably with the result that about one-third of the camp was literally a bog during the rain season, with the collection of water two to three feet deep in places, making access to barracks almost impossible. These conditions existed in the hospital area of the camp to a greater degree than in the main portion of the camp. Most of the buildings were in a run-down and dilapidated condition from lack of upkeep and because of the fact that much of the material had been removed prior to occupancy by prisoners of war.

During June 1942, the census of the camp rose steadily, reaching about 6,000 by July 1st. All American prisoners of war at Camp O'Donnell, except about 600 in a semi-moribund condition, were moved to Cabanatuan during the first two weeks of June. The remainder of the prisoners were those captured on Corregidor.

No provisions had been made for the care of the sick. All prisoners, almost without exception, were in need of food and medicine. The most extreme cases were placed in the hospital area of the camp and they usually averaged a daily census of 2,500. No medical supplies or equipment were provided by the Japanese until July 26, 1942. At least 3,500 of the prisoners were desperately in need of quinine and some 2,000 were suffering from dysentery. All were suffering from malnutrition and avitaminosis. Approximately 5,000 were in need of medication for disorders of the skin, such as tropical blisters and ulcers. Approximately 3,000 showed a severe degree of edema of the legs. Almost everyone was infested with body lice.

A summary of the general operation of the medical facilities of this camp will be given and special problems relating to diseases and sanitation will be discussed. The following topics will be considered: (1) operation of the hospital area (2) dispensary medical service (3) medical supplies (4) sanitation (5) morbidity and mortality of principal diseases.

On June 2d, 1942, a group of 250 prisoners which had arrived from Camp O'Donnell were housed in barracks at the western part of the camp. In this section of the camp there were thirty-one barracks in addition to mess halls and officers' quarters. This area was approximately 500 yards distant from the main portion of the camp, being separated by some open fields upon which were placed scattered buildings utilized by the Japanese.

On June 3d the personnel of General Hospital Number 2 were designated by Japanese Headquarters as the unit to operate the hospital area. Remaining medical personnel which had arrived at the camp later on were designated as the dispensary medical group. On June 7th, the hospital area was arbitrarily divided into a dysentery section and medical section, the former occupying the least desirable part of the hospital area. One hundred and thirty-five Medical Department enlisted men were placed in one barracks. The officers were placed in groups of fifteen to nineteen in the small Filipino officers' quarters and the balance of the enlisted men were crowded into similar structures.

Such mess equipment as could be obtained was moved to the hospital area. This consisted of a few iron cauldrons and five-gallon gasoline tins to hold the rice and soup. There were a few iron ladles and miscellaneous metal containers; otherwise there was nothing available to prepare food for 2,500 people twice daily. The movement of the desperately ill to the hospital area was begun on June 9th, 1942; 270 cases of severe dysentery were admitted to the dysentery section on that date. On the succeeding days some 400 to 600 patients were admitted until every barracks in the hospital area was completely packed with sick. The census then was 2,700 patients.

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The condition of the men from Camp O'Donnell was appalling and beggars description. These men were the survivors of the Death March and six weeks' maltreatment at Camp O'Donnell. What few clothes they possessed were ragged and filthy. They had not shaved or bathed for weeks. Hundreds of these men were bloated to twice their normal size because of the collection of edema fluid in the lower halves of their bodies and they were utterly fatigued and walked with great effort. They appeared more like men of eighty than boys in their early twenties. Many of them were stark naked. At least one-fourth were without shoes. For the care of this desperately ill group of men nothing was available. The buildings were without lights; not even a candle was provided. A few of these men possessed blankets but the majority were without adequate cover. Some of the men had tied gunny sacks or rice sacks around their bodies to provide a semblance of clothing. Only a limited amount of water was available for drinking purposes. There was none to wash the body or to cleanse mess gear. There was no soap or toilet paper, no brushes, brooms or cleaning rags. Moreover, almost every patient suffered from looseness of the bowels and many of them could not control the movements. Patients were literally steeped in their excretions. Those in the lower tiers lay in puddles of urine and feces and were further contaminated by the same material dripping from the tiers above. Even those who possessed some strength were unable to walk to the latrines. Many would crawl a few yards from the barracks and evacuate their bowels. Consequently the entire area was covered with feces and urine. The fly population was uncountable. They were of the large green and blue variety, the typical latrine fly. To keep them off the food was practically impossible. The odor from the foul bodies of sick and dying was almost unbearable.

Each day an attempt was made to clear each barracks of the dying. They were removed to "zero" ward, laid on the bare floor entirely naked. These patients usually were profoundly emaciated, in fact, little better than skeletons with a feeble spark of life. Heroic corpsmen and doctors did what they could to alleviate the indescribable conditions. They tied grass onto sticks and attempted to cleanse the floors. They used the same method of cleansing the body. Occasionally a big puddle of rain water would provide enough water to wash the floor. At this time the use of the regular water supply system was strictly forbidden by the Japanese. The few laymen who saw these conditions were utterly horrified. Even the Japanese doctors would not enter these wards and the Japanese staff at Headquarters gave it a wide berth.

Approximately a month after our arrival in the hospital area we were able to secure a moderate amount of soap and toilet paper and we were given special permission to use the water system for the purpose of cleansing the "zero" ward. Immediately a striking

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improvement was obtained in the appearance of that ward. On June 15, 1942, two cases of diphtheria were diagnosed. Inspection of the camp soon revealed additional cases. The incidence of this disease rose sharply. Within three months some 425 cases had been hospitalized and of these 123 died. For the first two months only very limited quantities of antitoxin could be obtained. During the third month a fairly ample amount became available. These patients, by Japanese order, were placed on the ground in small tents and they were isolated from the remainder of the dysentery area. Many of these patients died from sudden cardiac failure, others strangled to death and the remainder died from toxemia and starvation. Many of these cases were complicated by malaria and dysentery, in addition to starvation. It was surprising to see how many early cases recovered when they received as little as 2,000 units of antitoxin.

Japanese administration of the hospital was centered in the office of the Japanese Camp Commander. From him were issued orders pertaining to the roll call of patients to admissions, discharges, burials and all other matters relative to hospital administration. The Japanese doctors appeared not to possess any authority. They appeared to be willing to alleviate conditions but apparently could not secure the cooperation of the Japanese line officers. The Japanese would not permit any patient to be admitted after 5:00 P.M. They requested that a list of admissions and discharges be prepared and sent to Japanese Headquarters for approval. When approval was given and only then, the admissions and discharges could be effected. This was obviously done in order that they could maintain an accurate count on all prisoners. It resulted in seriously ill patients remaining in the barracks in a dying condition, and often death occurred before authority for admission could be secured. Space would not permit a further account of the difficulties in attempting to operate the medical service under the control of the Japanese. Only a small part of the difficulties have been covered in this report.

The first dispensary service was organized on June 2, 1942. About the middle of June, dispensaries were established in each of the three groups of prisoners in the main camp area. A sufficient number of physicians and corpsmen were assigned. The amount of available medicine was extremely limited. Up until July 26th, 1942, the only sources of medicine was that brought by individuals, a small amount provided by the Philippine Red Cross and small quantities found in Bataan by working parties and brought back to Cabanatuan. A portion of this medicine was assigned to each dispensary.

Within a day or two after the arrival of the medical cadre at Cabanatuan a requisition was submitted to the Japanese Headquarters calling for the equipment and supplies of a 1,000-bed general hospital. It was stated in the requisition that there were

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considerable medical supplies and equipment in Bataan at the site of General Hospital Number 2. It was requested that at least twenty-five truckloads of this material be brought to Cabanatuan at once. An urgent request was made for soap, creosol, toilet paper, clothing, blankets, improved water supplies, electricity in the buildings, etc. After a few of these requisitions were received, the Japanese Commander directed that they be presented to the Japanese doctor for his consideration, which was done. The senior Japanese Medical Officer in the Philippine Islands visited Cabanatuan about July 10th, 1942, and urgent representations were made to him. On July 26th, 1942, 300,000 three-grain quinine tablets (captured in Java) arrived with four or five truckloads of miscellaneous medical supplies. During the succeeding thirty-day period, after quinine was issued for use, there were 500 fewer deaths than in the preceding thirty-day period.

During the first few weeks in camp little progress was made toward improving the sanitation of the camp, but an active program was carried out in July and August. A number of drainage ditches were dug where most needed to draw off excess water. A group of 200 men constructed a raised pathway across the marshy land between the hospital and the main camp area. Similar pathways were built where most needed within the hospital area. Although the condition of the men was such that it was difficult to find enough men strong enough for the necessary details, some progress was made in the digging of new latrines. These were mostly of the uncovered type and constituted a sanitary menace. Several five-gallon tins of creosol were provided for use in the dysentery area of the hospital during the month of August. Issue of soap began about the first of July and was quite regular during the next two months. During the first summer men had to depend upon rain water for bathing and clothes-washing purposes. An attempt was made to cope with the prevalent lousiness by steam sterilization of clothing. The lack of fuel, plus the amount of rainfall and the general wetness of everything, hampered this effort very markedly. A moderate number of overalls and shoes from captured American stores were distributed to prisoners in July 1942. Included were a few hundred blankets; the amounts provided, however, were quite inadequate. To augment the water supply wells were dug various places throughout the camp. During the month of August a general cleanup with particular attention to waste, filth, discarded worn-out clothing, rubbish, etc., was accomplished. Cutting of the grass was carried out, soakage pits were dug for the disposal of liquid waste. If possible, waste was burned, otherwise it was buried in a pit. Special effort was made, particularly in messes, to kill as many flies as possible. By the end of the first three months an appreciable improvement had been made in the general appearance and sanitation of the camp, but a great deal more was required to make it livable. Only vast stores of food and medicine could have altered the results seen in the first few months of the camp's history.

The chief diseases encountered, as previously indicated, were malaria, dysentery, diphtheria and starvation. There were, in round numbers, 1,500 deaths in the first three months. With medical supplies that were available in the Philippines, plus the abundant food available in Luzon at that time, the Japanese High Command could have markedly alleviated conditions in prisoner-of-war camps with considerable saving of life. Unfortunately for the prisoners of war, high authority had directed that prisoners should be given extremely limited consideration. Consequently, the harsh policy resulted in an abnormal number of deaths. During June, 1942, there were 498 deaths, divided as follows: dysentery, 317; malaria, 128; diphtheria, 26; and miscellaneous, 27. During July, 789 deaths occurred. During August the death rate was lowered to approximately 240. This marked reduction in the death rate was due largely to the quinine which had become available as well as to a moderate improvement in the diet. The improved diet was due to the fact that the Japanese issued twenty-four cases of evaporated milk each day and this provided a fairly generous portion for all seriously ill patients in the hospital. Moreover, Japanese Headquarters had permitted the purchase of sugar and American canned goods. Although the quantities received were entirely inadequate they nevertheless contributed to the saving of life. As an incentive to the men on working parties, Japanese Headquarters authorized the issuing of one small loaf of bread in addition to their regular ration. Moreover, the rice ration was increased from about 390 grams to 500 grams daily. Mongo beans began to appear in our soup two or three times weekly. Small quantities of carabao and pig became available two to three times weekly. A liberal supply of Philippine cigarettes also tended to improve the morale of the group. During the month of July, Japanese Headquarters permitted relaxation in the form of programs and music. A recreational officer was appointed in each of the main groups of the camp. However, at no time were there sufficient quantities of critically needed drugs and food supplies which would have reduced the appalling death rate to a low level.

On October 31, 1942, the remaining prisoners from Camp #3 at Cabanatuan were moved to Camp #1, and consolidated therewith. By this time many large work details had been sent out from both camps and the population remained around 6,000. The exact figure is not recalled but will be released when all recovered documents become available. The death rate was then averaging about 300 per month and these were mostly from starvation, dysentery and deficiency diseases. Malaria at this time had been fairly well controlled since we were receiving quinine in fairly adequate quantities through Japanese issue.

Sanitation was still deplorable, latrines filled with water as soon as they were dug and the walls of the pits would cave in, leaving large openings for the free ingress and egress

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of flies. Maggots were crawling all over the area and could be scooped from these latrine pits in bucketsful of almost pure maggots. I have never seen anything to compare with the fly situation that prevailed at this time. Dysentery was the rule and many deaths were occurring from amebic as well as the bacillary type. Deficiency disease had progressed to the point that diarrhea was prevalent even among those who did not have specific infections and the problem of disposing of our own waste was becoming an ever-increasing one. Men were so weak that it was difficult to find enough healthy men for latrine digging details.

The diet continued about the same until late in November when the Gripsholm came through with its first cargo of Red Cross supplies. Each man in camp received approximately three small parcels and in addition there was quite a large shipment in bulk -- corned beef, meat and vegetable stew and sugar -- which was issued through the mess. Strangely enough, as soon as these foods came in, the Japanese started buying carabao and bringing them into camp for our veterinary detail to slaughter and for the first time since we were taken prisoners, started giving us a daily issue of meat. With this additional food the diet became adequate and men started gaining weight and our death rate fell from 300 a month to three or four a month within a period of three months.

A large supply of medicines and supplies came on the Gripsholm. About every type of sickness now could be treated adequately with the exception of amebic dysentery. No antiamebic drugs came in this shipment, and the supply of vitamin concentrates was limited but the diet was good enough that we were able to get along fairly well without them. The most prevalent deficiency at this time was peripheral neuritis from beriberi, and although progress was slow most of these cases began gradually to clear up after the diet improved.

Sanitation improved with the beginning of the dry season and early in 1943 the Engineer Corps devised and constructed a series of septic tank-type latrines which provided a solution for our greatest sanitary problem. The tank was simply a pit dug to a depth of about six feet which was braced with 2 x 2 and lined with sawdust to prevent it from caving in. The box was a regulation type box latrine with a metal bottom attached at an angle so that it would drain when flushed into the pit. This was made by splitting fifty-five-gallon metal drums into longitudinal halves and pounding them out and fixing them, with the concave surface up, to the bottom of the box. A half barrel was attached at the upper end so that it could be filled with water and dumped into the metal trough for flushing it. Wells were dug nearby to furnish water for flushing and a regular detail was assigned to flush each box not less than three times daily. The pits were connected by metal pipes to the main drainage ditch which ran along the rear of the latrine line to carry away the overflow.

It was a crude arrangement but when this project was completed it was the greatest boon to sanitation experienced during my imprisonment at this camp. Materials were difficult to obtain and most of them had to be purchased by the prisoners, but the effectiveness of this project in controlling fly breeding was immediately demonstrated.

In general, conditions continued good during 1943 but as the year progressed the diet gradually dropped off. Red Cross foods were exhausted in about three months and gradually the number of animals being slaughtered was reduced. The rice ration was cut several times and there was no longer any issue of mongo beans so that by the end of the year we were getting practically nothing but rice and what vegetables we could grow on the farm. In December, however, another shipment of Red Cross supplies came in. This time each man received one large box containing four individual parcels but there were no canned foods in bulk with this shipment.

The medical supplies, however, contained more of the badly needed vitamin concentrates and an adequate supply of carbarsone for treating amebic dysentery. This time the Japanese kept all medical stores at Bilibid and would release them to us on monthly requisitions only. An unsatisfactory setup but one that we were able to get by with. Dressing materials and adhesive tape were never released in sufficient amounts but we were able to get by with what we received.

Some shoes and clothing came in with this shipment and most men received at least one personal package from home.

Mail also came in in large quantities but most of it was still stored in the Japanese area when I left camp in October 1944. Only fifty to 100 letters would be censored daily and consequently very few letters were actually received by the average person.

This shipment of Red Cross foods helped out a great deal but did not last as long as the first shipment and as the year 1944 progressed the diet became progressively worse. Rice was gradually reduced to around 300 grams per day and there was no longer any meat issue. A salted fish was substituted for meat and there was no fat for frying it so that it was either boiled in the soup or was baked in the oven until crisp enough to grind into a powder in a rice grinder and was served one mess kit spoonful of the powder sprinkled over the rice. Vegetables were grown in sufficient quantities on the prison farm to have given an adequate feeding of greens and camotes but the ration was weighed and remained the same regardless of how great the supply.

Weight loss became marked and by the time evacuation of this camp took place in October 1944 averaged around thirty to thirty-five pounds per man. Only the hospital group was left at Cabanatuan. All others were removed from this camp by October 19th and were taken to Bilibid prison from where they embarked on their voyage for Japan.

Mortality at Cabanatuan was highest during the seven-month period June 1, 1942 to January 1, 1943. Of the 2,700 deaths at this camp, 2,300 occurred during this period. The greatest number of deaths for any single month was 789 for the month of July, 1942. The first marked decrease in the death rate occurred following the issue of quinine July 26, 1942. From that point on, the total deaths averaged from 250 to 300 per month until after the arrival of Red Cross foods and medical supplies in December, 1942. Following this there was a rapid drop to an average of three to four deaths per month which continued until the time of my departure in October, 1944.

Work done by Medical Department personnel was not limited to professional care of the sick.

Beginning in 1943, the Japanese Commanding Officer arbitrarily fixed the number of Medical officers and men that could be used in medical work for the camp and decreed that all other Medical personnel would be made available for the regular labor details in and around the camp. From that time on a large percentage of the Medical officers and enlisted men were employed in the following types of labor details: (1) working as "coolies" barefooted on the prison farm; (2) as laborers with an axe on the wood-cutting detail; (3) as laborers with pick and shovel on a detail engaged in improvising an airstrip near the camp; (4) as carrying details, bearing heavily loaded litters of raw vegetables grown in the prison garden, a distance of approximately one mile into the prison supply building. Many other types of work were participated in by Medical Department personnel, but this should serve to give an impression of the general kinds of work required of them. It was a common sight to see Medical officers carrying a large container filled with feces from our own latrines to the prison farm where it was used as fertilizer.

E. Bilibid Prison. The Bilibid Jap military prison camp played a big part in the medical organization of prisoners of war in the Philippines. This hospital was administered by our Navy medical group. They had been transferred from Santa Scholastica Hospital, a branch of the Manila Hospital Center, some time before the surrender of Corregidor, so that they were a functioning unit when the surrender occurred. Bilibid was the old Manila prison, which had been condemned as unfit for human habitation back in 1923 and resulted in the New Bilibid Prison being built prior to the outbreak of the War.

Bilibid military prison camp was the headquarters for all Jap medical activities in connection with the prisoners. It was here that many of the sick prisoners were brought and here many of the details were made up and sent out to work on various projects. All the medical supplies were stored here and distributed to the work details, and to Cabanatuan. It is not within the scope of this paper to cover the various medical activities of Bilibid. However, a paper on any phase of the medical activities in prison

camps would not be complete without at least a mention of Bilibid.

The theory under which the Japs worked in connection with the care of the sick was that Bilibid was the main hospital to which all the seriously sick were to be sent. Small medical detachments were sent out with each work detail with a small supply of medicine. The medicines were issued monthly and until the Red Cross supplies arrived, consisted of various Jap medicines, the names of which and the uses of which were unknown to almost all the Medical personnel. Red Cross medicine in large amounts arrived in December 1942 and about the same time in 1943. This was stored in Bilibid and so far as is known was not looted by the Japs. These medicines saved innumerable lives and the fact that Bilibid hospital was able to offer excellent treatment should a person become sick added greatly to the morale of the prisoners.

The main difficulty experienced was in getting the medicines to the patient, or the patient to the hospital. The Japs frequently refused to send medicine out of Bilibid to the work details or several months would elapse, during which time the Medical officer was frantically trying to get requests for medicine acted upon. It was just as difficult to get a patient from the work detail to the hospital. The Jap idea of sickness did not correspond in any way with ours. A person was not sick according to their standards unless he (1) couldn't work or (2) was in danger of dying. They didn't want patients dying outside the hospital because apparently they were censured whenever this happened. Also they followed up each case that was sent into the hospital. In case the patient had recovered in a week or so, the Medical officer who sent him in was chided that he had faked the sickness, and the difficulties in getting the next patient in were greatly increased.

The food situation varied so much from detail to detail that it is impossible to make a statement covering the situation. In general it was fairly good in and around Manila until the middle of 1943. From then on it gradually fell off until the latter part of 1944 when all but the extremely sick were moved to Japan. Along in June, July, and August, 1944, the food consisted of about 300 grams of rice and 200 of corn per man per day, plus some greens. Meat, rice, and fats were almost nonexistent.

This report is based on conditions that existed at Bilibid at the time specified and does not necessarily give a general picture of conditions that existed prior to or after the dates mentioned (October 19, 1944, to December 13, 1944).

Bilibid prison is located in the city of Manila. The buildings are all permanent structures, some frame and some of reinforced concrete, and the entire compound is enclosed by a wall of rock and plaster some twelve to fourteen feet high.

In October 1944, most of the prisoners from Camp #1 at Cabanatuan who were not hospital patients were moved by truck to Bilibid Prison, where they were held while awaiting shipping facilities to take them to Japan.

The majority of this large group of prisoners were housed during this time in the old Bilibid Prison hospital building which was a reinforced concrete structure and which had been stripped of all hospital furniture and equipment. Only the bare concrete floors remained and it was on these floors that this group of prisoners slept without bedding during their internment at Bilibid.

The hospital section at Bilibid, however, was by far the best seen at any camp visited by the writer. The wards where hospital patients were kept were equipped with the Regular Army type GI beds or had suitable bunks built in so that patients did not have to lie upon the bare floor. The buildings were all equipped with running water and the supply was adequate and potable. Latrines and shower baths were improvised outside the buildings but were connected with the city sewer system and could be kept in a fairly satisfactory sanitary condition. There was an incinerator for disposing of combustible garbage.

One building was set aside for storage of Medical supplies received through the American Red Cross and for use as a dental clinic and an outpatient clinic for the entire prison. The dental clinic was well equipped with two Regular Army type dental units and the outpatient clinic was equipped with electric instruments sterilizers, an electric water sterilizing unit, dressing tables, desks, chairs, etc. The Red Cross medical supplies were adequate and dressings, though limited, were fairly adequate.

One building was set aside for the occupancy of officers on duty at the hospital and another for the Medical Corps men on duty. They were provided beds or bunks and living accommodations were in general satisfactory. The surgical section was equipped with an autoclave, instrument sterilizers, operating table and a limited but satisfactory supply of instruments. In general, the situation here from the standpoint of equipment was fairly good.

The ration during this entire period consisted of a canteen cup 3/4 full of a watery lugao (boiled rice) twice daily. The dry weight of rice is not known, but it could not have exceeded 300 grams per man per day. The only other item of diet was the usual greens soup, the caloric value of which was, in my opinion, negligible. I do not recall receiving a meat meal during my stay at this camp, but it is possible that some dried fish may have been, at times, included with the soup. It was the poorest ration we had yet received and the weight loss at this time was becoming alarming.

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The average loss among the group from Cabanatuan I would estimate at fifteen to seventeen pounds per man during the six weeks period here.

The health except for starvation and deficiency diseases was better than average. Dysentery was not prevalent and malaria was usually a recurrence from an old infection. Quite a large number of amebic dysentery cases were present, but most of them had been given treatment and were more the chronic type and not acutely ill. The general medical situation here was one due to prolonged starvation. Pellagra and beriberi were common, but at this time vitamin concentrates were available and were dispensed daily to any patient presenting signs of these diseases. Although vitamin concentrates were a great help in preventing some of the tragic results of deficiency diseases, they were not a solution to the condition that existed here. Starvation, per se, without the added effect of deficiency disease, was fast becoming a real threat.

The mortality rate during the period involved was not as high as had been encountered elsewhere but there were several deaths. One autopsy witnessed by the writer showed no gross pathology that could be considered as a cause of death and the opinion expressed by the operator at that time was that death had resulted primarily from starvation.

F. The Death Cruise from Manila to Japan. On the afternoon of December 13, 1944, 1,619 officers and men many of whom had survived the death march and all of whom had survived Japanese imprisonment from the surrender of Bataan and Corregidor, were packed into the holds of the Japanese transport Oryoku Maru and started on their way to Japan. There was no excuse for moving these prisoners at this late date and the senior American officer present had written a letter to the Japanese officer in charge at Bilibid protesting the risks that would be involved, but the Japanese reply was that there was no danger involved or they would not consider moving us. Preparations for this move had been underway for some time. Most of the group had been moved from Cabanatuan to Bilibid some six weeks before and were issued wool clothing to be used upon the arrival in a colder climate. Eighty cases of American Red Cross medical supplies were set aside to be loaded on our ship and six other cases were prepared especially for our use during the voyage.

Having witnessed the bombing of Manila Bay area by our own dive bombers for the preceding six weeks, it was with considerable misgivings that we embarked from Pier #7. There were the hulls of three sunken ships alongside the pier and an estimated forty-five other ships, wrecked and resting on the bottom of the bay, the

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results of our dive-bomber action. Pier #7 was almost completely destroyed but could still be used as a dock for loading and unloading by hand labor. All machinery and mechanical cranes had been destroyed.

The first night out was spent in getting through the mine-fields and out of the bay and by eight o'clock the following morning we were under attack by American planes. It was not a surprise but rather what we had expected and feared. Men had been packed so tightly in the holds of the ship that there was not room to lie down or even sit down in most cases. In the forward and after holds conditions were most crowded. The writer was in the second hold forward and fared better than those who were in the other holds.

The bombing raids came at frequent intervals during the 14th and the ship spent most of the day zigzagging not far off the coast of Bataan. Several hits were sustained and there was considerable damage to the superstructure of the ship and many casualties were incurred among the prisoners in the hold from strafing and fragments of bombs; but no direct hit was made in either hold during the first day's raids. Late in the afternoon, however, the ship had become so badly crippled that she dropped anchor not far from shore where she remained until almost dark that night. After the attacks had ceased she again got underway and pulled into Subic Bay and anchored, where all Japanese nationals who had occupied the upper decks and all Japanese wounded were removed. According to stories brought back into the hold by American doctors who had been called up on deck to help take care of Japanese wounded, their casualties were several hundred. There was no effort made to remove the prisoners and it was during this second night out that twenty-four Americans died of suffocation in the hold of this ship. After the Japanese nationals and wounded were removed the ship again got underway and pulled out into the channel of the bay and dropped anchor again. During this move the Japanese interpreter called down instructions into our hold and said that we would be taken ashore at daybreak and that we could take only the clothing we would be able to wear ashore and that we could not wear shoes but would be allowed to carry them with us. With this preparation made well before daybreak everyone settled down to wait for the big moment when we would be going ashore. Many men carried emergency dressings and varying amounts of medicines that they had accumulated through packages received from home. These they were digging out of their bundles and getting them cached away in their clothing in preparation for smuggling them ashore. Daylight came and everyone was ready and waiting to be taken ashore but no move was made on the part of the Japanese until about two hours after daybreak, when the first American planes appeared overhead. These did not attack us and were apparently reconnaissance planes. However, as soon as these planes disappeared, we were given instructions to send up twenty-five men and to send

the wounded up first. This order was complied with and the first load of twenty-five men were in a small boat headed for shore when the first bombers appeared for the attack that finally sank the ship. The small boat was destroyed, killing most of its occupants, but one or two of them got safely ashore. The second wave of bombers came in after a brief interval and in this raid a bomb scored a direct hit in the after hold, killing some 250 to 300 prisoners. After this attack the interpreter again called into the hold and said everybody out. All wounded in this hold had been removed just preceding the attack and although there were several new casualties since the raids started, it is believed that they were all removed from this hold and most of them were able to get ashore. When the prisoners came on deck the ship was burning furiously at the stern and ammunition was beginning to explode. There were no lifeboats available and the ship was some 300 yards off shore, which made it necessary for most men, in their already weakened condition, to strip off their clothing before attempting to swim ashore. The writer barely made it with only his dog tags to hinder him. By the time the first group of swimmers reached the shore the planes were returning for a third raid upon the ship and someone called out for everyone to wave his extended arms in the fashion that airplanes wag their wings in expressing recognition and everyone who had his feet on the sand did so. The emotion that swept through the crowd when the leader of that group of planes returned our signal and led his bombers away without attacking would be difficult to understand. He was the first free American with whom we had been in communication for almost three years.

Most of the not too seriously wounded got ashore or were brought ashore on improvised rafts, but a total of approximately 300 were lost with the ship. We were then taken to an open tennis court, wounded and sick along with the well. Most of us had no clothing and had lost our blankets and personal belongings on the ship. The Japs, disregarding this, kept us on that tennis court without food and clothing day and night for a period of five days. The only attempt at feeding was to issue a few bags of raw rice the last two days and this amounted to only a mess kit spoonful per man twice daily. Nothing was provided in the way of medical supplies, but as soon as we were ashore someone handed me a bottle of iodine that he had been able to salvage and by the time that we were all settled on the tennis court enough supplies had been collected to start another of our now famous improvised aid stations. Wounds were dressed with whatever materials could be provided by the patient or by his friends, and one end of the tennis court was set aside as a hospital for the wounded and it turned out to be the only hospital to which they were ever taken. To give an impression of the conditions encountered here the following example will suffice: An officer who had received a moderately severe wound in the left shoulder developed a gangrene of his arm, which had to be removed

without anesthesia and with only a pair of tissue scissors and a hemostat and a razor blade for surgical equipment. The results were, of course, self-evident, but the patient wanted it removed.

Before leaving the tennis court we were reoutfitted with clothing. This time, however, instead of equipping us with woolen uniforms and blankets, we were given only a cotton undershirt and a pair of cotton Japanese drawers. Men who had gotten ashore with their clothing on were indeed fortunate, for it was with this wardrobe of clothing that we were to finish our voyage to Japan. There was much speculation over this before we finally realized that our voyage was to be continued. During our stay on the tennis court we had quite a number of dead to dispose of. They were buried in bomb craters made by American bombs dropped in the vicinity.

On the 20th of December a convoy of Japanese trucks came and moved approximately half of the group to San Fernando, Pampanga, and the following day returned to pick up the remainder. We were kept in an old theater building there until December 24th. Here we received ten boxes of American Red Cross medical supplies which had been sent up from Bilibid Prison in Manila by train. Upon receiving these supplies, a sick call was held immediately and all of the wounded were dressed. This was the first time that aseptic dressing had been available since the sinking on December 15th. Many men were ill with acute dysentery by this time and an effort was made to clear them up with sulfathiazole but many cases either did not report for treatment or were treated inadequately because many cases were observed when our journey was resumed.

Limited facilities for cooking rice were provided at the theater building and several small meals of cooked rice and seaweed were prepared and served by our own personnel during the two days that we were held in San Fernando, Pampanga. A majority of the group had lost their mess kits and it was a common sight to see men eating rice from a dirty piece of paper, an old rag of clothing, or a piece of tin or bamboo that had been picked up around the premises. Their only utensils were dirty fingers or a split section of bamboo.

On the evening of December 23rd the Japanese interpreter came and told us to be prepared to send a truckload of our most seriously wounded back to Bilibid that night. This order was complied with and fifteen wounded were loaded into a truck. They have never been heard of since that night. I have checked personally with Medical officers left behind at Bilibid Prison and at Cabanatuan. What fate befell them remains to this date a mystery.

On the morning of December 24, 1944, we were marched to the depot at San Fernando, which had been partially destroyed by bombing and while a dogfight was in progress overhead between American and

Japanese planes, entrained for San Fernando, La Union. This time we were not restricted to 100 men per boxcar but were packed in so tightly that up to 175 men rode in and on top of a single car. We were cautioned not to make any attempt to escape but were told that those riding on top might wave to American planes in the event we were attacked. This trip proved to be an almost maddening experience because of lack of ventilation and water, but so far as I know no one died of suffocation or thirst en route. Several died at San Fernando the next day, probably as a direct result of the trip.

December 25th was spent in the school yard at San Fernando, La Union. A dispensary was set up inside the building and the floor was immediately turned into a hospital for the seriously ill. Our Red Cross medical supplies were brought along in the train and were made available to us during our stay at the schoolhouse but that night we were moved down to the beach and did not have access to them from that point on. Two nights were spent on this sandy beach and on the morning of December 27th, we were loaded on landing barges from which Japanese troops had just come ashore and taken to the two Japanese transports in which we continued our voyage to Formosa.

Two small meals of cooked rice were issued while at San Fernando, La Union, one at the schoolhouse and one while on the beach. In addition another spoonful of raw rice was issued on the evening of December 28th.

Water was plentiful at San Fernando but we were allowed to carry only a few bucketfuls from a sump nearby. Each man received about eight mess kit spoonfuls during the day on the beach. Many had been able to fill their canteens while at the school and this served to tide them over.

For this leg of the voyage -- San Fernando, La Union to Takao, Formosa -- we were divided into two groups. I was with the smaller group, 165 men in the hold of #2 ship in the convoy, and the larger group occupied the hold of #1 ship in the convoy. There was no overcrowding in #2, but as the ship followed its course to the north, the fall in temperature began to have its effect and by the time we reached Formosa we were already miserable from the cold. This voyage ended at Takao on New Year's Eve and was uneventful except for an attack by submarines during our last night at sea. No hits were made on either ship but there was considerable excitement and many depth charges were dropped by our escorting vessels.

The same crises developed during this voyage that always seemed to come up when moved by the Japanese, viz, lack of water and food. If my memory serves me correctly, we were given our first drop of water by the Japanese on this ship late in the afternoon

R E S T R I C T E D

of December 30th and this amounted to not more than one-fourth of a canteen cupful per man. The American interpreters aboard begged constantly for water, but were refused.

Three meals, consisting of about one-third of a canteen cupful of rice per man, were given during this voyage which lasted from the morning of the 27th to the evening of the 31st of December, 1944. It was after we were tied up at the pier at Takao, on the morning of January 1, 1945, that we received our first big meal, viz, four and one-half pieces of terro-pan, the Japanese version of hardtack.

We remained in the hold of this ship until about the 7th of January, when we were taken by barge to the #1 ship, which was riding at anchor out in the bay. During this week while tied up at the pier we were still refused an adequate supply of water and were given practically no food. I would estimate that the daily average water issue did not exceed three ounces per man.

The number of deaths among this small group was not high and as I recall did not exceed eight or ten deaths up to the time we rejoined the others.

Conditions on this second ship were much worse than we had encountered on the first. The hold we were placed in had been used for transporting animals and the ammonia fumes coming up from the bilge were at times stifling. Flies were breeding by the millions and dysentery was again running riot.

The food and water situation was somewhat better in that rice was served regularly twice a day, one canteen cupful to four men, and a cabbage soup was served with at least one of these meals daily. The soup was not nutritious but did add to the fluid intake and helped to make up for the scant water ration.

The day after we joined this group 500 men were moved out of the lower level of this hold and into a forward hold which had just been cleared of coal. It was in this forward hold that a bomb was dropped in an attack by American dive bombers on January 9, 1945. Several other bomb hits were made toward the stern of the ship and she was so badly damaged that she could not be moved but did not sink. Whether she was resting on the bottom I am unable to say, but at any rate we were not removed from this ship until January 13, 1945.

The casualties from this bombing were higher than they had been in the bombing of the Oryoku Maru, but the number killed was approximately the same. Of the 500 men in the forward hold almost exactly 50% were killed but the number of wounded in both holds was greater and the nature of the wounds was, in general, most serious.

Only about twenty were killed in the second hold but many fractures of a more serious nature resulted from falling "I"-beams and heavy timbers from the hatch covers above. About fifty of these involved fractures of the long bones and several fractured vertebrae. In addition to these more serious fractures, there were hundreds of minor injuries from bomb fragments and steel splinters from the ship's hull and from the bulkhead which separated the two holds.

The medical problem created by this second bombing would have exceeded our capacity to work had we been furnished with everything needed from the standpoint of medical supply and equipment. As it turned out we were able to do very little.

In the first place many of the seriously wounded were in the forward hold where the bomb struck. I had a glimpse into that hold through an opening in the bulkhead where a fragment had pierced it, and even that was in violation to Japanese orders. For two days the living and wounded in this hold were left with the dead and mangled and in spite of every effort on the part of the Americans in charge, were denied any help that we might have been able to give them. The wounded in the second hold were given whatever treatment could be improvised; hemorrhages were controlled and wounds were dressed with dirty undershirts taken from the dead. Fractures were splinted where pieces of timber could be found to use as splints, but many were only laid in as comfortable a spot as could be found and their only treatment was to carry them food and water when it became available. There was no morphine to ease their pain and in fact no medical supplies except what could be collected from individuals.

On the second day after the bombing two Japanese enlisted men of their Medical Department came aboard with some dressings and although they would not go into the forward hold they did come down into the second hold and ordered that all minor wounded line up and come by for dressings. When they stopped operating, the line was still forming and they refused to do any work on our seriously wounded. When they left the ship they sent down a few boards for splints, about a dozen roller bandages, a bottle of iodine, a bottle of mercurochrome, three triangular bandages, and less than a pound of cotton. These were to be our medical supplies for the rest of our journey.

The next day a barge came alongside to remove the dead. These were taken from both holds and were taken ashore for burial. I would estimate about 300 men were buried in Formosa.

On the 13th of January all remaining personnel were loaded on barges and transferred to another ship. (This happened to be the same ship on which the smaller group had come up from San Fernando, La Union.) The wounded were loaded by lowering a cargo net and

hoisting them out of the hold onto the barge and then transferring to the deck of the other ship. From that point on it was our problem to get them down into the hold. Again we were to carry our wounded with us until they died and had to be thrown overboard.

There were left, roughly, a thousand men, including the wounded who started on this third phase of the voyage. The entire group was placed in a small hold near the stern of the ship. Space was again a problem. Double-deck sleeping bays had been installed leaving the hatch cover leading to the hold below as the only space in the hold. This was set aside for the hospital section where most of the fracture patients and many of the seriously ill were placed in order that they could be cared for by Medical personnel more advantageously. These were patients who were unable to get in and out of the sleeping bays and food and water would have to be carried to them by the corpsmen. There was only a narrow passageway surrounding this hatch cover where others could pass to reach the entrance to the sleeping bays and where wooden buckets could be placed to serve as latrines. This passage also had to be used in getting food and water back to the sleeping bays for there was not sufficient space to allow men to get out of these bays once they were in them.

On the morning of January 14, 1945, this ship pulled out of Takao Harbor and headed on toward the north. The route that it followed could not be determined but soon we were far enough to the north that snow flurries were encountered. There was no heat in this hold and no blankets or extra clothing had been provided and now in addition to our usual run of worries we were faced with the problem of how to keep from freezing to death -- a problem which a large number failed to solve.

The ration for the rest of this journey was fixed at one canteen cupful of cooked rice for four men twice a day and was methodically reduced to keep it at that level as the daily dead were thrown overboard.

The water ration averaged about one canteen cupful for eight men twice a day and for several days of the voyage tasted so strongly of salt water that it was almost impossible to drink it.

At the beginning of this trip the Japanese interpreter announced that anyone caught stealing from the ship's cargo would be severely punished and shot to death. This must have been the most encouraging remark that he could have made to the prisoners on that ship, because it resulted in an immediate search for a way to get into the hold below and within a short time men could be seen eating sugar on the sly in almost every bay. Not only did they steal sugar to eat but many of them ripped open sacks and dumped the sugar out and used the sacks for cover to keep from freezing to death.

Fortunately, the Japs were afraid to come into the filth of this hold and this violation was not discovered.

Sanitation in this ship became the worst that had been encountered. Latrine buckets could be emptied only as the Japanese would authorize it and this bore no relation to the time at which the became full; consequently, everyone aboard who did not have dysentery in the beginning either developed it right away or was immune to the infection. No water was provided for personal hygiene and for six weeks men had to go without so much as washing their hands and face. Salt water was requested for this purpose and was refused. Mess kits could not be washed and soiled clothing salvaged from the dead could not be washed but was put on and worn by others in spite of this, and so the filth increased as the trip progressed.

Morbidity was almost 100% in addition to sickness from starvation, and disease wounds that would under normal conditions have been trivial resulted in infection and deep abscesses which had to be drained with only a razor blade or a pair of tissue scissors for surgical equipment. Dressings ran out and men broke into the life-preserver room and stole life preservers for the kapok stuffing to use as surgical dressings. To keep from freezing to death they stuffed kapok into the legs of the Japanese drawers they had on and those who had socks or shoes stuffed them with kapok also. The hold became littered with feces and kapok.

The mortality on this third and final ship was highest. As our total decreased the deaths increased until by the time this ship reached Moji in Japan on January 30, 1945, less than 500 men were alive and of that number over 200 more were in such a debilitated state that they died within the next few weeks. Of the total of 1,619 men who had left Manila, December 13, 1944, less than 300 survived to see the end of the War.

G. Shirakawa. American military personnel arrived at this camp in June 1943. There were 150 officers and forty-three enlisted men. In October 1943 the majority of Americans were moved from Shirakawa to the mainland of Japan.

Shirakawa is located in the west-central part of the Island of Formosa near the town of Kagi. After Karenko was abandoned, Shirakawa was officially known as Taiwan Camp No. 4.

The camp was located in a swamp bottom surrounded by low hills. It was extremely hot and muggy during the summer months, and the drainage was poor. Sanitary conditions were filthy. During the rainy season, the entire area was flooded, and water ran constantly under the floors of the barracks and hospital. During the last

rainy season, which lasted forty-five days, three buildings could not be used because of large leaks in the roofs.

There were electric lights in all the buildings. There were no screens in the buildings nor were the buildings heated. During the winter months, the temperature reached forty degrees above zero.

The water supply was inadequate. There was a medium-size water tank located outside the stockade and a pipeline built of bamboo carried water into this compound.

There was no specific place designated to wash clothes. However, a special laundry, consisting of a large iron cauldron, was set up to wash the clothes and blankets of the hospital patients.

All officers and enlisted men worked in the fields at this camp. All work was done under guard. Working conditions were bad because of the terrific heat. All men worked in G-strings. Some of the crops raised here include sweet potatoes, corn, cabbage, beans, cauliflower, and a plant used as a substitute for hemp. One work project was the construction of a huge fish pond which was built by hand. The pond was never stocked with fish. This "useless" work was instituted to keep the prisoners in a state of physical exhaustion to prevent escapes.

Disciplinary conditions were bad. The guards would use clubs and rifle butts to keep the men working at full speed. Beatings were daily occurrences. Roll-call formations were held several times a night. All minor infractions of rules and regulations resulted in slippings and beatings.

In June 1944, a directive was issued to the effect that all prisoners must work to produce food and the prisoners were requested to volunteer to work. When the men refused to work, the rations were reduced. In June 1944, a Red Cross representative visited the camp, but the spokesmen were not allowed to register any complaints or to present any problems.

A Japanese noncommissioned officer was in charge of the hospital. He was very poorly trained as a medical personnel man. There was a very meager supply of medicine for use here. The prisoners were inoculated a great many times with Japanese vaccines. The Japanese gave the Americans an ample supply of antimalaria drugs for therapeutic purposes.

No one was excused from work unless his temperature was above normal. The only medical equipment in possession of prisoner-of-war doctors was one American-made sterilizer and stethoscope. The Japanese gave no medical equipment to the prisoner-of-war doctors for their use.

In 1942, and again in 1944, a small amount of American Red Cross medical supplies was issued to the hospital for American prisoners. Mosquito nets were issued. Two deaths occurred in the camp due, in part, to hard physical exertion on an inadequate diet, and working in the sun. These conditions overstrained the heart.

Although there was no real need for isolation, there was an isolation ward built for tuberculosis patients with adequate space for ten beds.

One letter of fifty words was allowed to be sent each month. These letters were typewritten by the Japanese and then mailed. Incoming mail arrived in batches of several letters over a long period of time. Some officers received fifty letters at a time. Other officers received no mail at all.

During the time this camp was in operation only three Red Cross food parcels were issued to each man.

Very few articles of value were for sale at the P.X. A small amount of tea was sold. Tablets similar to the B1 vitamin pill was sold until the Japanese discovered that the prisoners were using them to improve the flavor of the rice. The sale of these tablets was then stopped. Toothpaste, toothbrushes, shoe laces, mirrors, hairbrushes, Japanese razors and razor blades, writing paper, pencils, and playing cards were sold. A limited supply of food items was occasionally offered for sale, such as a type of small fish, canned vegetables, flavoring syrup, ketchup and a type of sauce similar to the American Worcestershire sauce.

There were religious services held every Sunday, although no chaplain was present, until the British group of prisoners arrived here from Hong Kong. Later another chaplain arrived.

A volleyball net was put up, but the game was not popular because of the amount of physical activity required. There was some baseball equipment, but for the same reason, the game was not popular here. Many good books brought in by the British were available.

From November 1944 on, the Shirakawa camp was made into a hospital for all the prison camps on Formosa. The organization consisted of seven medical officers plus about forty enlisted men who ran the hospital, under the direction of a Japanese sergeant of their medical department. The quarters there were old Jap army barracks which each housed about 100 men. Water was not potable and it all had to be boiled and rationed carefully. The food situation there was a great improvement over that which existed in the Philippines in 1944. Rice for workers in the amount of 680 grams per man

per day, and considerable amounts of vegetables were issued daily.

A rather limited supply of Red Cross medicine was available and the doctors conferred frequently to go over the medicine situation and revise the drugs which were available and the amounts in which they could be used. By careful planning, we still had Red Cross medicines available when the camp was liberated.

The plan of the Japs that patients would be brought from the various camps on the island to the hospital was fine in theory, but did not work out practically. Patients were allowed to become too ill to move and died in large numbers at the camps. Those who were brought into the camp were extremely ill and many died shortly after admission to the camp. The total number of deaths in the camp though was not large compared to the numbers dying in the work camps.

The Japs insisted that everyone work whose physical condition in any way allowed. Thus there were several categories of workers: (1) those on full work; (2) those on light work; (3) those on work that did not require standing. As a person was released from the hospital he was placed in the lightest work category and he was gradually moved up to the full work category. The selection of the men was left up to the Medical officers, but anytime the number on light work became too large, they were transferred to field work by the Jap in charge.

The issue of food was graded according to the work category in which a person was placed. Those in the hospital received the smallest issue, and those on field work the largest. This gave the men an incentive to get in the field work category, but seriously impeded the recovery of those in the hospital.

Finally about August 15, 1945, the Japs began issuing us extra rice, sugar, meat, and various articles of clothing. We knew then that the end was near and on August 22nd we were lined up and the Jap Commander announced the end of the War. My first realization that the War was over came August 28th when early in the morning I looked out of the window and saw three American officers. They were under arms and looked like giants. It was our first contact with civilization in thirty-nine months.

H. Fukuoka Camp #1. The survivors of the death cruise, having arrived at Moji, Japan, January 30th, remained aboard ship until the morning of January 31st, at which time they were taken on deck and given an issue of clothing consisting of a suit of cotton underwear, a pair of woolen Jap Army breeches, a heavy canvas jacket and a pair of tennis shoes. After the clothing issue was made, they were taken ashore to an old theater building. The seriously ill were the last to be moved and with customary Japanese efficiency

the cargo net was lowered. This time boards were furnished to make a floor in the bottom of the net. A patient was loaded and the attendants stood by waiting for him to be lifted out, but soon a Jap sentry appeared with the usual "hurry up" and made them load the net with three or four other patients before they would raise it. In this manner the hold was cleared of sick and the few remaining wounded in short order. All were taken to the theater building, which was not heated. Here most of that day was spent, while the Japanese busied themselves dividing the prisoners into three groups, viz., a hospital group and two groups of what they classed as well men. The writer in the meantime was kept busy signing his name to death certificates in blank form to enable the Japanese officer in charge of this move to account for his prisoners. Such was the physical state of these prisoners upon arrival at Moji that several others died during the time that was spent in this theater while the Japanese made up their rosters. Finally, when everything was in order, ambulances came to take the hospital group away and while this was in progress the other "well" group was marched away, and then the group to which I was attached was marched to the station, where it entrained for Fukuoka Camp #1. We were met at the station in the town of Casi by some American prisoners from Wake Island who took us by truck to Camp #1. An American, British or Australian Red Cross overcoat was issued to each man before entrucking. We arrived in camp well after dark and were served a meal of cooked rice, soup, and a warm drink of Japanese tea.

The camp at Fukuoka was new and some buildings were still under construction. The framework of these buildings was of native lumber and bamboo with tar-paper roofs. The outer walls were of $\frac{1}{4}$ -inch lumber and were about three feet high from the ground to the eaves. The ends were plastered with a red mud stuck on a lathing of split bamboo. The floors were sand and only an open passageway down the center from one end to the other separated the sleeping bays that extended down each side of the building. There was no heat and no furniture in the buildings but each man was issued six ersatz blankets to use in making his bed and for cover, which was inadequate, but a better break than had been expected.

Everyone was allowed to stay in bed for the first week or ten days after our arrival at this camp until one day the Japanese doctor came through and made a separate classification of those who were able to be up and those who were not. From that time on the "well" men were required to get up at 6:30 AM and as soon as morning rice was served and the roll call taken, had to clear the building and remain outside, except for thirty minutes at 10:00 AM and one hour at noon, until 4:30 PM. It was a strange sight to see these ghosts of men out walking to avoid freezing to death. All were so weak they could hardly creep and many could only huddle

together against the side of the building to keep warm. The unconscious and dying and those who could not get up under their own power were allowed to remain in their bunks.

After a few days, a representative from headquarters in Fukuoka came out to inspect and inquire into our needs and I personally gave him a list of the medical supplies that were needed and laid great stress upon the needs for additional food, emphasizing that if any Red Cross parcels were available they would do us the greatest good now in this, our most critical time. As a result, this inspection eventually netted us one small Red Cross package for each three men, and a smattering of medical supplies, which were left under the control of the Japanese doctor and which we were never able to get in sufficient quantity even to approach meeting our needs.

After a few more days a Japanese colonel came in to inspect the camp, and after his tour was over word was sent for all Medical officers to report to him outside, in the front of the building. This was done, and after making a short introductory speech he asked each Medical officer for his opinion on what we needed most. The answers were unanimously food and medicines. Specific types of food were requested, such as meats, milk, and butter, and again Red Cross parcels were requested. His reply was typically Japanese. He agreed that we needed everything that was requested, but stated that these things were scarce and very difficult to obtain. Replying specifically to our request for Red Cross parcels he said, "You are very hungry now and I am afraid if we give you these parcels now, you will eat them too quickly and waste them and they will do you no good." In reply to a request for more blankets he countered with the statement that Japanese soldiers were given only five blankets and that we were issued six. It was useless to point out that these men had lost all their fatty tissues and were sick men and therefore needed more bedding.

There were some cases of Red Cross medicines seen in camp by men working in the Japanese warehouses, but to get any drugs of either Japanese or American origin prescriptions had to be made out and turned in to the Japanese doctor for approval. He made these decisions arbitrarily without seeing the patients and without so much as consulting the American doctor who submitted them. They were usually disapproved or some worthless preparation substituted. Even when a prescription was approved, the dose was always reduced to a noneffective amount. To get around this latter handicap we tried putting in for two patients when only one required the drug, but this proved to be of little help. We could not seem to beat the system.

The food ration at this camp consisted of a mixture of rice and "koreon" (a small grain which looked much like milo maize or a cross between milo maize and broom corn). The rice was of a type that seemed to be particularly hard to digest and the "broom corn seed" seemed to pass through the human intestinal tract almost unaltered in its appearance. The soup usually consisted of boiled "dikon" (a large white radish) and at the evening meal frequently contained a few grams of dried fish. On several occasions a small squid was served for each two men. The amount of food received at this camp might have been sufficient to maintain weight at its present level had it been a digestible type of grain, but certainly no one showed any appreciable gain in weight. I was still holding my own at 117 pounds when we left the camp on April 25th and that weight included considerable edema of the lower extremities. Some men at this camp had weights recorded as low as eighty-seven pounds and survived. The diet here was a salt-free diet except for the natural salts contained in the food elements and the craving for salt became almost unbearable, but the weather was cold and no disaster resulted. The Japanese realizing this salt shortage asked the Americans to submit plans for extracting salt from sea water but nothing ever came of it. The following story is cited to illustrate the extreme craving for salt: While working on a manure-carrying detail, some salt was discovered along the picket line where it had been spilled while salting the animals. It was a coarse granular type of salt and was picked up with as little manure as possible, taken back to camp where the crystals of salt were separated from the manure and dissolved in boiling water. This was allowed to stand until the dirt settled out and the salt water was decanted off and sterilized by boiling and then used as a liquid to season the rice.

Some time in March the Japanese started issuing flour to bake bread for the dysentery patients and this was issued in lieu of the rice and maize ration, and although it was too late to benefit most of the serious cases, who had already died, it did aid considerably in helping our remaining dysentery patients to recover. Bone-marrow broth was served to this group on three or four occasions, not frequently enough however to be of any real value.

Water was plentiful but had to be boiled before it was potable. This fact alone made it impossible to get an adequate supply, because of the fuel shortage. Consequently, men drank the water directly from the well. It was an open shallow well about eight feet to the water level, and not twenty feet away was an open sump where feces and urine were mixed in preparation for putting it on the vegetable garden. Warning was given not to use this water unboiled but little attention was ever paid to that warning.

The death rate at this camp was fairly high. The exact figures I do not recall but it was something like fifty-two deaths out of the group of 192 men that came originally to Camp Number 1. These figures may not be exact but I am sure they are approximately correct.

On April 25th the groups from the other two camps were brought to Fukuoka and joined us in another cruise from Fukuoka, Japan, to Fusen in Korea. The American officer who was with the hospital group has stated that of the 110 men who were sent to the hospital in Moji only thirty had survived. No information on deaths was obtained from the other group and the first group was separated from them upon arrival in Fusen. They were sent to Manchuria and the first group was sent on to Jinsen in Korea. At the docks in Fukuoka an American Medical officer was called upon to see an officer who was in a dying condition from pneumonia. The Japanese doctor there gave the Medical officer medicine for him and some morphine to ease his pain. Before the officer died that night he was asked whether he had been forced to come on this move or had come by choice. His reply was that the Japs would not authorize him to remain in Fukuoka. This is a typical instance of how men were moved from place to place when it was evident that they were in no condition to survive the move. I do not recall ever making an overnight move from Bataan to Korea when some dead were not left somewhere along the route.

The Japanese doctor who gave the medicine at the docks in Fukuoka turned out to be the one from Mukden of whom so many good things have been reported. Ironically enough he was not taken prisoner by the American forces but was in the zone occupied by our Allies.

I. Jinsen, Korea. The camp at Jinsen was reached April 27th, 1945, after an all-day trip by transport across the Straits to Fusen, and a twenty-four hour train ride from Fusen to Jinsen via Suol. The crossing was uneventful and accommodations were good. The ship was a fast one and the hold was equipped with heavy straw mats for bunks. It was like riding a luxury liner after our previous experience. From Fusen the trip by train was in regular passenger coaches, with no overcrowding. Cooked food was served regularly throughout the trip and in much greater amounts than was customary. It was served in individual packages called "Bento boxes" three times a day and consisted of cooked rice, vegetables, and fish or meat. Water was adequate also and as a result we arrived at Jinsen in about as good physical state as we were in when we left Fukuoka two days before.

The camp at Jinsen was an officers' camp and the Japanese Commandant told us that officers would not be required to work. Sufficient enlisted men were kept at this camp to take care of

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such menial tasks as are encountered in camp administration and a detachment of Medical Corps men was retained to help with the medical work of the camp. One American medical officer was detailed to assist the Japanese doctor in treating our sick and all other medical officers were relieved from any medical duties. At this time, there were only 140 American prisoners left of our group.

The housing accommodations here were the best encountered at any camp. Buildings were permanent frame structures, with the usual tar-paper roof and dirt floors, a passageway down the center, and wide sleeping bays on either side extending the entire length of the building and placed about two feet above the ground. Bays were covered with woven cane mats that afforded some padding on which to make down the beds. Six blankets were issued for bedding and a cotton uniform was issued to each man. Red Cross overcoats which had been issued at Fukuoka were taken up before leaving that camp and no others were issued here, but the worst of the cold weather was over and no real suffering resulted from lack of heavy clothing.

Sanitation was poor, but as good as that encountered at any other camp. Latrines were open pits and were placed not more than thirty feet from the side of the barracks. Flies were not a problem at first but, as the weather grew warmer, began to plague us just as they had at all the other camps. Most of us, however, now felt ourselves relatively immune after three years of almost constant exposure to bacillary dysentery. Anemic infection had become chronic in quite a number of cases but little trouble was encountered here from acute dysentery of either type.

Personal hygiene would have been satisfactory except for the fact that all of us had become infested with body lice on board ship en route from Manila to Japan and we were never given an opportunity to delouse ourselves at Fukuoka and consequently brought our lice along with us to Jinsen. Everyone was heavily infested with lice. They allowed us to boil our clothing only one time at Jinsen, and this did not prove to be adequate. Our lice were back with us within a few days. After the weather became warm, fleas invaded the barracks to add to our discomfort, but it was a strange phenomenon to note the lice decrease as the fleas increased. However, there still remained enough of both to make sleeping a fairly difficult and frequently interrupted process. Bathing facilities were satisfactory and there was a limited issue of soap, tooth powder and razor blades.

The ration consisted of a mixture of polished rice and barley (estimated at about 250 grams per man per day), which was served at the morning and evening meals. A wheat-flour bun was served at the noon meal in lieu of the rice and barley mixture.

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The bun contained a small amount of soya bean preparation. The dry weights of these ingredients were not revealed but I would estimate not more than 150 grams went into the making of each bun. In addition to this, there was a soup of boiled vegetables with each meal, which also contained a small amount of soya bean paste. The only other regular issue was ninety grams of soya bean fat per man every ten days and one Red Cross parcel per man once each month. There was an occasional issue of from four to ten small boiled clams or a small fish. The only meat issued here was that received in the Red Cross parcels, viz., two cans of pork loaf and one can of corned beef. There were other items in the parcels, such as raisins, powdered milk, etc., but this was the only meat and constituted a month's ration. All in all, however, this was the best ration that had been received since about August 1944, and most men who were not ill with dysentery did gain a few pounds after reaching this camp. To further supplement this diet after the first week or ten days, although we were told that work was not required of officers, the Japanese Commandant, through our American representative, agreed to give an additional portion of rice for each two officers who would volunteer to work. This offer was discussed in general assembly of all officers and it was the opinion of a majority of us that although nothing would be gained over the extra energy expended in doing the work required, it might be a good policy to cooperate and not antagonize the commandant by refusing to work. It turned out that only a few of the extremely weak men in camp refused to volunteer. The work consisted of growing a vegetable garden, sewing button holes and sewing buttons on Japanese civilian uniforms and in pulling a bull cart loaded with garments to and from the factory where they were made -- a distance of about three miles. The work was typical of the work commonly performed by "coolie" labor but was participated in by all and without loss of a sense of humor and was carried on up to the time of the surrender.

The following incident is related to give an impression of the way the Japanese reacted toward feeding their war prisoners. For six weeks prior to the surrender, the prison garden had been producing more vegetables of all types, including Irish potatoes, than could have been eaten by the small group imprisoned at Jinsen and although some thirty tons of Irish potatoes had been harvested and placed in storage inside the compound, there was little or no increase in the vegetable content of the soup. Potatoes were rotting so fast in the storehouse that a detail of men was kept busy daily sorting out the bad ones and disposing of them. While this process was going on, one was lucky to find more than three or four small pieces of potato in his soup. It is estimated that ten times as many potatoes rotted daily as were prepared and served to the prisoners.

The sickness at Jinsen varied little from what had been experienced elsewhere. Most everyone had pellagra and nutritional edema. Tetany was common but only mild symptoms were exhibited, such

as temporary spasms of the fingers and toes. A considerable number had chronic amoebiasis, but the only new disease to sweep through the camp was an acute fever somewhat resembling dengue or severe influenza. It was never diagnosed and although there was some speculation as to whether it was a louse-borne disease, no conclusion was ever agreed upon. There were no fatalities from it, but the discomfort which resulted was severe, and no medicine other than an occasional aspirin was provided for its treatment. The fever lasted over a period of about ten days to two weeks and was characterized by severe headache and malaise and by a morning remission of the fever, somewhat like that seen in typhoid fever.

The Japanese doctor at this camp displayed an absolute lack of interest in the medical problem faced by this group of prisoners and, on the contrary, seemed to be possessed with a fiendish desire to abuse and mistreat them. He was the most feared Jap in the camp and rarely did his turn as Officer of the Day go by without someone getting a severe beating. The mortality at this camp was low -- only two Americans were buried there after our arrival.

On the day following the surrender, the Japanese authorities notified us that the War was over and all work details were discontinued. We were asked to remain within the compound or to take a Japanese guard with us if we desired to leave. Native merchants were permitted to bring foodstuffs into camp after the first three or four days, and soon we were eating eggs and beef and fresh fruits of various kinds, as well as all the Irish potatoes that we cared to eat. Weight gain was almost unbelievable. I personally gained six kilos in six days. Of course, much of this was due to fluid retention in the tissues as well as to filling up a GI tract that had been empty for something over three and one-half years.

A few days later, the B-29's came over and started dropping barrels of American canned foods, cigarettes, chewing gum, candy, clothing and medical supplies. It was a thrilling day and almost ended in disaster when some of the barrels broke loose from their parachutes and came crashing down through the roof tops. They couldn't have hit a safer spot since all the prisoners were outside watching the show. There was one casualty, a fractured femur, but no fatalities. When this demonstration was over, someone was heard to remark: "They are killing us with kindness." I failed to hear anyone criticizing the procedure and when they returned next day everyone got outside the compound and watched the show from a safer viewpoint.

Parachute materials of red, white, and blue were salvaged and that night a group of our most expert needlemen manufactured what it is believed was the first American flag to be raised in Korea after the surrender of Japan. She was still flying from her

bamboo flagpole inside the prison compound when the Americans landed at Jinson September 8, 1945.

It is good to be free!

14. MEDICAL ACTIVITIES WITH THE GUERRILLAS

The City of Baguio, Mountain Province, was ordered evacuated December 22d and 23rd, 1941. It was occupied by the Japanese Army on December 27th. The withdrawing remnants of the Philippine Army, which had delayed the Japanese on the beaches and in the mountain passes, then literally ran across the mountains to the vicinity of Balete Pass. They had hoped to outflank the Japanese at San Jose and dash to Bataan, where the main defending forces were assembling.

On December 29th the Japanese seized San Jose early in the morning, and with it the last available road to Bataan. Only a few of the troops from the Mountain Province had been successful in getting through to Bataan. The remaining troops, exhausted and hungry from their long push through the mountains, were now entirely cut off from the main forces, and also quite disorganized.

The remnants of the 88th Field Artillery were organized into a battalion of infantry. One company was left to occupy and guard Balete Pass. The rest of the battalion was marched to Bagabag, Nueva Vizcaya, where they established temporary bivouac. Japanese aviators soon learned of this troop concentration and bombed them. The Japanese infantry and cavalry quickly pushed north through Balete Pass to Bayombong; and then to Santiago. The guerrilla forces continually harassed the Japanese, but were unable to fight a head-on encounter because of lack of equipment, and because they were greatly outnumbered.

The battalion headquarters were moved to Jones, Isabella. In spite of steady reverses, new members were continually joining the organization, until it reached a total of 1,500 members. It was now composed of two battalions of infantry and one battalion of cavalry. One hundred local horses were turned over to the cavalry battalion on receipt by loyal Filipinos.

A supply system was organized. Owners of rice mills and farmers were very cooperative and supplied adequate food regularly for USAFFE receipt. The local politicians were also very cooperative in obtaining supplies of every description for the regiment.

Communications were established. A two-way radio was located and carried by hand over one hundred miles to Jones. Daily contact was soon established with Corregidor. A relay telephone system was soon set up to all of the permanent regimental outposts.

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A medical service was established with the former Surgeon of Camp John Hay, as Surgeon with four Philippine Army Medical officers and one Dental officer as assistants. A dispensary was set up at the Regimental Headquarters. Two hospitals were organized in abandoned school houses in neighboring barrios, so they would be out of range in event of bombing of the headquarters or barracks.

Two air-strips were constructed in the vicinity of Jones by our troops, with the aid of voluntary civilian labor. These were adequate to land small planes. Small portable buildings were kept on the air-strips to conceal their purpose. They could be moved off in fifteen minutes, when needed.

A detail of 100 men crossed the rugged Sierra Madre mountains to the east coast, and built a pier with the aid of local labor in the harbor of Casiguran. This pier was adequate for the landing of a destroyer or submarine.

It was believed that we had sufficient establishments to be the basis of an initial landing in case of an invasion of friendly troops. We could have given coverage and considerable support to such a landing.

Medical supplies and equipment, including ammunition, were requested from Corregidor, preferably by destroyer or submarine. We received the answer that it was impossible for a vessel to approach the east coast at that time.

On two occasions a single P-40 from Bataan dipped down over our air strip and dropped a box of ammunition and a box of medicine by parachutes. Some of the medicines and ammunition were lost by breakage, but the morale of the regiment rose.

A picked group of our troops were chosen to join picked groups of other guerrilla organizations in a raid on the airport at Tuguegarao. The raid was carried out under cover of darkness. Two planes were destroyed on the ground and over one hundred Japanese personnel killed.

Patrols containing about twenty-five selected troops were sent to raid towns (barrios) in Japanese-held territory. One or two of the members of the patrol would enter the town as civilians. They would observe the movements of the Japanese troops in the town for several days. Then on signal, the telephone wires were cut at both ends of the town, and the Japanese Detachment was promptly annihilated as it marched down the road to breakfast.

When the Japanese troops withdrew from Cagayan Valley in late March 1942, one of our battalions pursued them as far as

Balete Pass, where they set up defense positions. Telephone communications and courier service were quickly established with headquarters at Jones.

With late radio news, which we were able to pick up daily, we printed a small newspaper called the "Bataan News." The Doolittle raid on Tokyo was the subject of many hundreds of these newspapers, which were carried by our patrols into many provinces in northern Luzon. We felt it was a great morale booster for the civilian population, who were desperately looking for some sign of Uncle Sam's activity.

Through our radio, we received permission from President Quezon to print emergency money. We turned the actual printing job over to the Treasurer of the province, but it was kept under strict supervision. A certain amount of the money was turned over to the regiment, and was used to pay the soldiers as well as to supply food, clothing, etc.

We had frequent conferences with the Governors of the provinces, and Mayors of the barrios to inform them as to our purpose. We helped them keep order in their areas. They helped us get supplies and equipment. When a mayor or governor became jittery, because of fear of what might happen to him when the Japanese came in, we had to appoint a new officer in his place. We felt some satisfaction in learning that the Japanese Army later accepted the mayors, governors and provincial engineers that we had appointed.

As of April 1st, 1942, our regiment, which now had the new title of 14th Infantry, Philippine Army, had control of the entire area between Tugucgarao and Balto Pass, and between Kianan and the East Coast.

Medical activities with an organization of this kind were of necessity not the best, and yet they were not as completely absent as might be expected. We had been able to get some medicines and surgical instruments from local hospitals, but only after the Japanese had raided them first, and they had been rather thorough. The local doctors who had offices in the neighborhood dug into their personal supplies. Many sympathetic Filipinos gave freely of their medicine and time. Several Filipino women made bandages for us. The two boxes of medicine dropped from a plane from Bataan were of great value, but were soon used.

Antimalarial medicines were quickly used up because of the prevalence of malaria in the area. Under the guidance of the Filipino doctors of our staff, considerable bark of a certain tree was obtained and boiled in water. The resulting concoction, when given to active malaria cases, would cause a cessation of the

active symptoms of the disease for several weeks. Then we would have to repeat it. We did not dare give it to malaria cases when they were not active, as we did not know what by-products might be contained in the solution. We also had no method of determining the strength of the potion, except by trying it on the malaria cases in small amounts. A similar solution was made from the bark or fruit of the guava tree. This would help the average case of diarrhea.

Hospitals were established in abandoned school houses in Minuri and Dibulwan, two barrios near Jones. These hospitals would house a total of 100 patients. The majority of cases were malaria and dysenteries. In spite of inadequate medicines and supplies, we kept our mortality rate very low.

Food was the best that could be obtained in the locality. It was much better than the average Filipino was accustomed to in his home. It consisted of a great variety of fresh fruits and vegetables. Chicken, pork and eggs were obtained in sizable quantities. All food was boiled or baked.

Water was obtained from deep wells of barrios when available. When not available, the soldiers were urged to boil water when it was to be used for drinking. We had no other means of sterilizing water. Fortunately, most Filipinos were familiar with crude sand filters. They would dig a small well near a river in the sand, and let it settle for several hours. It was much more potable than ordinary river water.

Sanitation was crude of necessity. When an organization remained longer than one day in a location, pit latrines were dug.

In spite of complete absence of prophylaxis, we saw almost no venereal disease. The average Filipino in the provinces was very faithful to his wife and family.

The patrols, who often went as far as 200 miles from our headquarters at Jones, Isabella, were instructed to go to local doctors if they should get sick or wounded during their mission. When possible, a medical aid man was sent with the patrol. He carried small amounts of medicine and bandages. Local civilians were very good to sick or wounded guerrillas. They would take them into their homes and take care of them until well, in spite of the severe threats of the Japanese.

As loyal civilians were supplying the regiment with food, clothing, transportation, oil, medicines, etc., every effort was made to take care of all the sick or wounded civilians in the areas in which we operated. Our doctors travelled many miles on horseback

or foot daily to give medical care to friendly civilians as well as the troops. Many times when the Japanese were close by, it was necessary to make these long trips at night. Filipino "evacuation camps" were visited daily to care for their sick. We found that the medical care of the civilians paid dividends in many ways and probably played a part in the friendliness of the Filipinos toward the Americans on their return to the Philippines. Many of these friendly civilians enlisted or received commissions in the invading American Army. There was never any doubt in their minds as to which side they were on.

When Bataan fell, we received orders from Corregidor to cut our regiment to 600. This was a great disappointment to the many who had to be sent home, and lowered the morale of the remaining soldiers. Within a few days, 3,000 Japanese troops massed at San Jose and started their push into the Cagayan Valley. Shortly Corregidor fell. We realized that we were not equipped to fight a pitched battle. Our remaining mission would be purely one of intelligence. We moved our radio into the mountains at Pinippigan. It was necessary to disband great numbers of our troops. They were sent to their homes with their rifles and told to hide them until they were notified again. The remaining troops scattered in small groups and went into the mountains, as the Japanese Army took over the Cagayan Valley. Patrols (in civilian clothing) continued to keep us informed as to the movements of the Japanese.

Within a few hours after the fall of Corregidor, we heard a radio broadcast from Manila by General Wainwright ordering us to surrender. We held a conference and decided that General Wainwright, being a prisoner of the enemy, had lost his command and his right to give us orders. The acting commanding officer of the 14th Infantry said he was not going to surrender. He told the rest of the regiment that each member could decide for himself what he would do. Everyone decided not to surrender. We knew that any information we could get concerning the enemy would be of immense value to the returning American Army.

We were moving our headquarters to Palangon, where Aguinaldo had held out for two years successfully against the Americans during the Insurrection, when we were informed that an American officer had arrived. He was flown by the Japanese to Baguio from Manila, and then to Echague, Isabella. He was armed, by Japanese permit, which he carried. There were no Japanese with him. He told us that General Wainwright wanted us to surrender. The Japanese would annihilate the captured American prisoners from Bataan and Corregidor unless all of the forces in the Philippines surrendered. He said there were thousands of sick and wounded in the prison camps and they were urgently in need of all doctors. He left us no choice.

The 14th Infantry surrendered to the Japanese at Echague, Isabella, on June 20th, 1942. The members who were not present at the surrender were ordered to surrender by written order of the commanding officer, which was published by the Japanese. Even then some of the members refused to surrender and remained in the Sierra Madre mountains to contact Australia and keep it informed of conditions in the Philippines.

15. TRIBUTE.

As Philippine Department Surgeon and later as Surgeon, United States Forces in the Philippines, I feel it is my privilege to commend the Medical Department personnel for the work done during the period here reported. Never in the history of war has medical personnel been called upon to perform their duties under such arduous circumstances and over such a protracted period. One must consider the following facts:

A. The War in the Philippines began December 8, 1941, and the bulk of the prisoners of Japan were returned to military control in September 1945.

B. During this period, there was a continuous and ever-increasing medical problem. Beginning with the War on Luzon, and continuing through Bataan and Corregidor, the conditions encountered were as difficult as any throughout the whole global war.

C. Personnel replacements and augmentation of supplies ceased at the outbreak of the War.

D. No period of acclimation or conditioning to war was allowed. On December 7th, 1941, we were at peace; December 8th, 1941, we were at war and in the front lines.

E. Then through the period of prison life, lasting approximately forty months, under conditions defying description, medical personnel carried on, limited only in their endeavors by the character of their captors, the scarcity of medical supplies, and the physical limitations of their own emaciated bodies.

Reflecting on the above facts, it is with pardonable pride that I recall the supreme effort put forth by all the Medical Department personnel. Officers of the Medical Corps, Dental Corps, Veterinary Corps, Medical Administrative Corps, Army Nurse Corps, and enlisted men of the Medical Department all performed their duties in a superior manner.

In the years to come this group of medical personnel can look back with great comfort and pride to the part they played during this grim period while upholding the finest traditions of the Medical Department, United States Army.

Wibb E. Cooper
WIBB E. COOPER, O-2819,
Colonel, Medical Corps.

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R E S T R I C T E D

HEADQUARTERS GENERAL HOSPITAL NO. 2,
In the Field.

In reply refer to:
710

March 10, 1942.

Subject: Malaria Control.

TO : The Surgeon, Philippine Department, In the Field.

1. I would like to point out a grave problem pertaining to the Medical Department and the U.S.A.F.F.E.

2. Malaria is rapidly increasing; some 350 cases were under treatment in this hospital as of March 8th. The admission rate is alarming, some 260 patients arriving March 9th. Most of these are medical and a large proportion have malaria. We will need huge increases in the amount of quinine for treatment. For example if a patient is given the standard treatment of 2 grams daily for 5 days followed by .650 grams daily for 6 weeks, each treatment case will require 37 grams or $1\frac{1}{4}$ ounces.

3. It is suggested that quinine should be provided for the Clearing Company personnel to treat cases and relieve the pressure on the hospitals.

4. The facilities of General Hospital No. 2, at present are over taxed and if we reach 3600 census, including the convalescent ward of 500, we will have reached the extreme limit. It is further suggested that plans should be made for hospital No. 1, to handle a minimum of 2000 patients. A survey of medical corps personnel of the entire far eastern command to determine redistribution for duty will become imperative if the malaria situation gets beyond control.

5. Quinine prophylaxis having stopped we anticipate additional hundreds or even thousands of cases. I believe 50% of personnel at this hospital have subclinical malaria and a material lowering of physical and mental efficiency has resulted from this disease process.

6. We are urgently in need of a tremendous stock of quinine for treatment and prophylaxis. The General Staff should understand the extreme gravity of the malarial problem and give priority to quinine above that of any other critical item. If the malarial situation

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TAB #1

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is not brought under control the efficiency of the whole Army will be greatly impaired; in fact it will be unable to perform its combat functions. It is my candid and conservative opinion that if we do not secure a sufficient supply of quinine for our troops from front to rear that all other supplies we may get, with the exception of rations, will be of little or no value.

7. The ability of the Army to maintain its position in the ensuing months will depend in part upon the prompt securing of an adequate stock of quinine. It should be brought by air initially, then by submarine or boat.

Lieutenant Colonel, Medical Corps

1st Ind.

HQ Philippine Department, Office of the Surgeon, March 11, 1942. To - The Commanding General, Philippine Department, In the Field.

1. It is recommended that construction of new site of General Hospital No. 2 be pushed as rapidly as possible; that General Hospital No. 1 be expanded to 1,000 beds. Bamboo beds to be made for this expansion.

2. Every effort is being made thru the Commanding General USAFFE to get sufficient quinine on first priority by air both for treatment and prophylaxis.

/s/ W. E. COOPER,
Colonel, Medical Corps,
Surgeon.

710.

2nd Ind.

HFB/brb

HEADQUARTERS SERVICE COMMAND, LUZON FORCE, USAFFE, In the Field, March 24, 1942 - To: CO, Hospital No. 2, In the Field.

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HEADQUARTERS GENERAL HOSPITAL NO. 2,
In the Field.

In reply refer to:
632

March 14, 1942.

Subject: Hospitalization

To: Surgeon, U.S.A.F.F.E., Fort Mills, P.I.

1. On February 26, 1942 a General Hospital Reservation on Bataan, was designated. Shortly thereafter plans for a 3000 bed hospital of semi-permanent construction were submitted to the Engineer, U.S.A.F.F.E. by the Commanding Officer, General Hospital No. 2. Inspection of the Hospital Reservation on March 13th showed that a trail had been cut into the area, otherwise nothing had been accomplished.

2. In approximately 6 weeks heavy rains will fall in Bataan and thereafter the inclemency of the weather will become progressively more marked. A sharp increase in common respiratory diseases and pneumonia is expected. It is estimated that 5000 beds will be the minimum number required to care for the sick and injured. It is suggested that the Clearing Companies treat 1000-1500 cases in the forward areas and that Hospital No. 1, expand to a capacity of 1000 or more.

3. The present location of General Hospital No. 2, will be untenable in the rainy season. In fact, at present hundreds of patients have no shelter from the showers that inevitably will come before the heavy rains. At the present rate of progress in providing additional and suitable facilities for the sick it is believed that the transfer of patients and equipment will be so delayed that considerable damage to property from rain will occur and that the physical and mental condition of patients will be impaired by the conditions imposed by excessive rain. The maintenance of messing, necessary movement of patients within the hospital area the distribution of drinking water, collection of garbage and disposal of refuse, maintenance of the electrical system and many other necessary activities will be greatly curtailed due the condition of the roads, which in this area are of dirt.

4. It is recommended that the Chief of Staff be acquainted with these manifold and urgent problems incident to the proper care of the sick in order that much greater impetus be given to hospital construction. As the situation exists at this time it is obvious that the sick and injured cannot be properly cared for during the approaching rainy

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TAB #2

R E S T R I C T E D

BRIEF: Ltr General Hospital No. 2, In the Field, March 14, 1942, Subject: Hospitalization, file 632

season and great hardship and suffering will be imposed on patients and duty personnel charged with the task of their care.

5. Utilization of additional tunnel space on Corregidor to the fullest extent for sick and wounded is considered essential. Utilization of hospital building and barracks suitably marked by a red cross and reasonably removed from military objectives, on Corregidor, may become imperative to lessen the burden on inadequate installations in Bataan. Movement to the Southern Islands of patients unfit for duty should be accelerated if the tactical situation permits.

6. The welfare and well being of several thousand patients will be determined directly in a large measure by the action taken immediately by higher authority to solve these pressing problems of hospitalization of the sick.

Lieutenant Colonel, Medical Corps,
Commanding.

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BATAAN GENERAL HOSPITAL NUMBER TWO
Bataan, P. I.'In the Field,
May 7, 1942.

MEMORANDUM TO: The Commanding Officer, General Hospital No. 2.

The following information concerning the nutritional condition of patients at Bataan General Hospital No. 2 was obtained from reports submitted by each of the ward surgeons on May 5, 1942. This may also be taken as an index of the nutritional status of the hospital personnel.

This data was based entirely upon the clinical judgment of each of the ward surgeons and the history as obtained from each patient. No precise method of measurement of nutritional symptoms was used in obtaining this information.

Evidences of Nutritional Disturbances.

	No. Patients	Percentage
Anemia, secondary.....	768	61%
Weakness.....	1173	93%
Edema, dependant.....	89	7%
Paracesthesia.....	103	8%
Loss knee jerks.....	11	0.8%
Bleeding gums.....	18	1.5%
Subcutaneous petechiae.....	3	0.2%
Night blindness.....	23	2%
Malaria (since Jan. 1st).....	817	65%
Common diarrhea (since Jan. 1st).....	508	40%
Dysentery, unclassified (since Jan. 1st)	208	16%
Average loss of weight per patient.....	24.5 lbs.	
Total number patients in hospital.....	1252	100%

One important feature of nutritional disturbances not tabulated here was emphasized by Lt. Col. J. W. Schwartz when he said that "wounds are now taking twice as long to heal as they did in Manila and union has not been demonstrated in any fracture whose cast has been removed since April 1st."

The exceptionally poor nutritional state of all patients and hospital personnel must be attributed to a lack of variety of carbohydrates, fats, proteins, minerals and vitamins and to a marked quantitative deficiency of proteins, minerals and vitamins. Clinically the nutritive disturbances may be classified as a combination of beriberi, scurvy, nutritional edema and anemia secondary to dietary deficiencies. All of this is of course much empha-

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Nutritional condition of patients and hospital personnel (cont'd)

sized by the high incidence of malaria and gastro-intestinal disturbances.

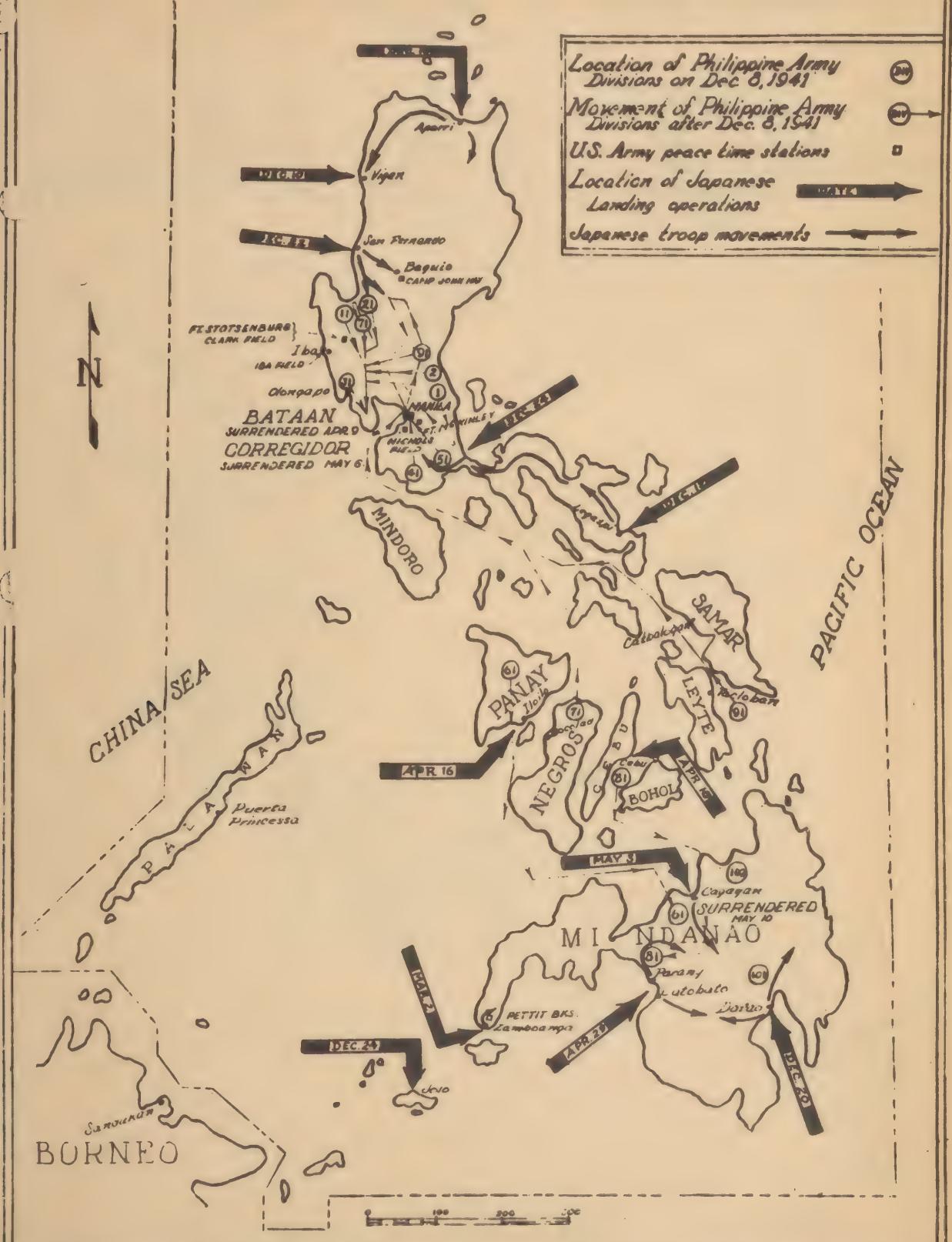
It has proven difficult to emphasize the seriousness of the nutritional state of the people at this hospital by means of statistics and comment. The true picture can best be demonstrated by simple inspection of any of the wards.

Chief Medical Service

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THE PHILIPPINE CAMPAIGN DEC. 8, 1941 - MAY 10, 1942

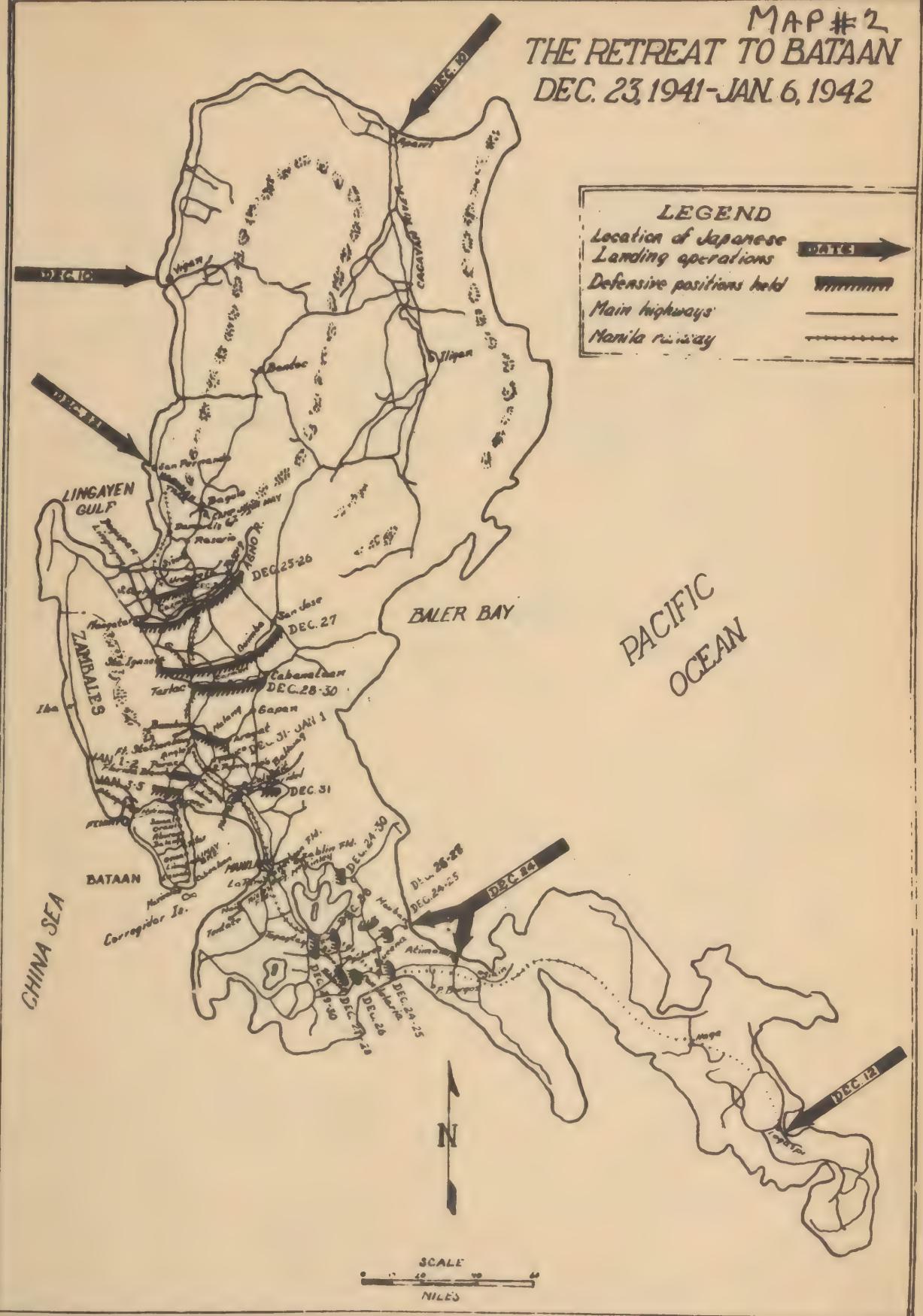
MAP #1



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MAP #2
THE RETREAT TO BATAAN
DEC. 23, 1941 - JAN. 6, 1942

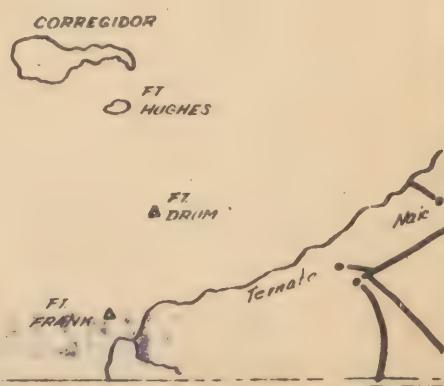
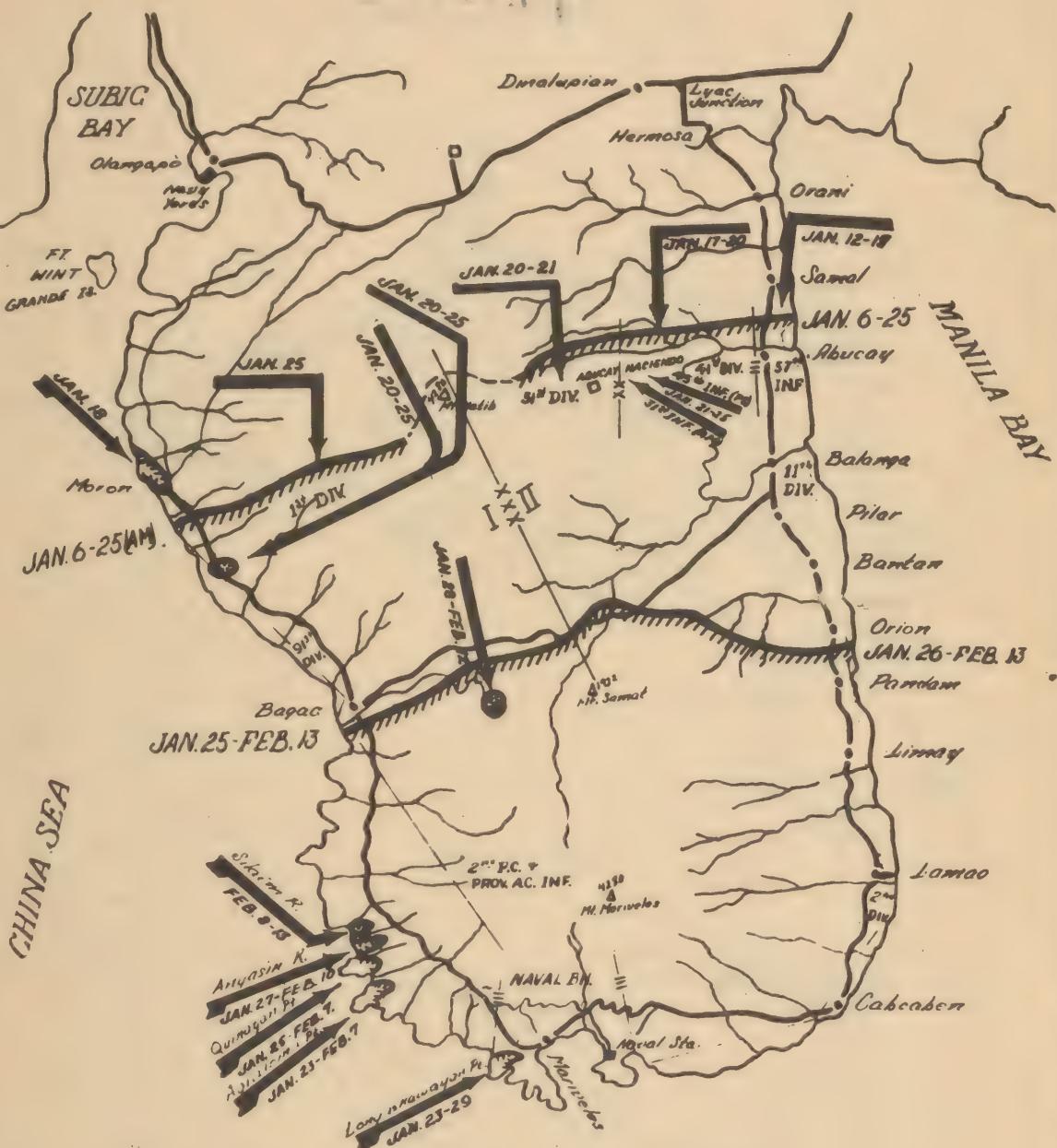


APPENDIX CITED

Rushing
up 25-83195-75

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THE FIRST BATTLE OF BATAAN MAP #3
JAN. 6 - FEB. 13, 1942



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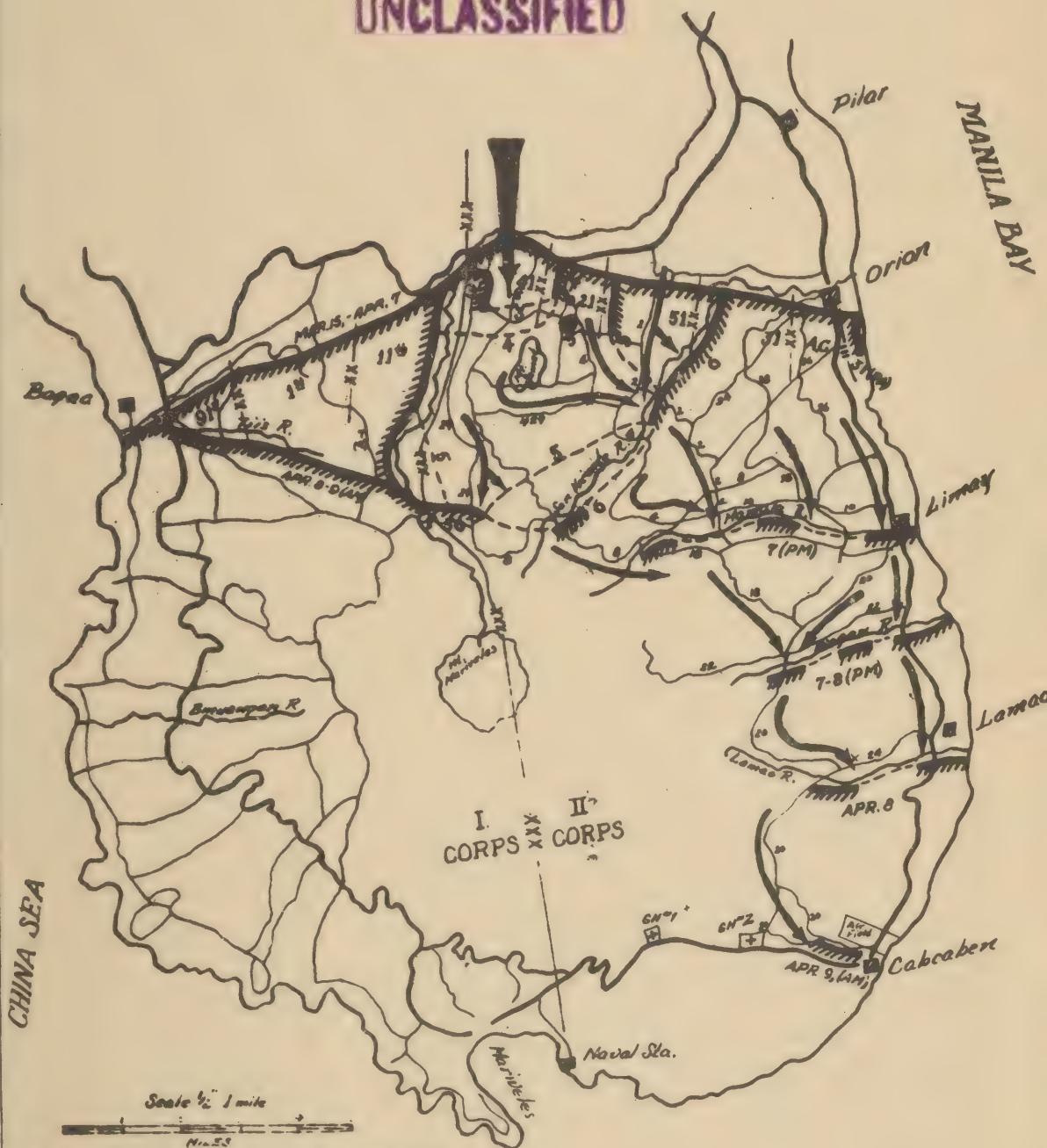
3341228410-

33412284100

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THE SECOND BATTLE OF BATAAN MAP #4
MARCH 15-APRIL 9, 1942

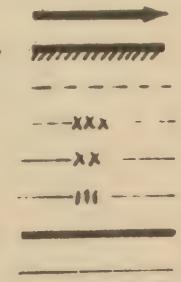
UNCLASSIFIED



Scale 1/2 mile

Miles

- Japanese attack
- Front line for date shown
- Gap in front line
- Corp. boundary
- Division boundary
- Regimental boundary
- Major road
- Trans.



UNCLASSIFIED

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Rushing

1312213

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